

IMPACT OF OWNING A PET DOG ON STRESS LEVELS AMONG ADULT POPULATION IN DELHI

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DOI: 10.46609/IJSSER.2021.v06i11.014 URL: <https://doi.org/10.46609/IJSSER.2021.v06i11.014>

Received: 3 Oct. 2021 / Accepted: 10 Nov. 2021 / Published: 5 Dec. 2021

ABSTRACT

Many kinds of research in the past have been conducted to analyse the relationship between dog ownership and stress and anxiety. While some studies have found that dog ownership has a positive impact on reducing stress levels, some have found no such relationship. This research examined the relationship between dog ownership and stress levels. The stress levels of 120 adults all aged above 20 years were measured using the Perceived Stress Scale (PSS) shared offline and online. Participants included 60 dog owners and 60 non-dog owners all residing in Delhi, with similar socio-economic backgrounds and equal gender ratio. A paired sample t-test conducted using SPSS software version 26.0 indicated that the dog owners had significantly less stress levels as compared to non-dog owners ($p=0.001$). This was in conformity with many similar studies reported in the literature and the hypotheses. However, more research is needed to understand and explore the qualitative, age specific and other aspects related to stress.

Keywords: Dog owners, Stress, Pet dog

1. Introduction

According to the APA dictionary, stress can be defined as internal or external factors that cause a physiological or psychological response. Stress causes changes in almost every system in the body, affecting how people feel and act. Fidgeting, palpitations, faster speech, sweating, shortness of breath, dry mouth, augmentation of unpleasant emotions, and extended duration of stress exhaustion are examples of its symptoms. Stress contributes directly to physiological and mental disorders and diseases, as well as affecting physical and mental health and lowering the quality of life, by triggering these changes in the body.

Stress is not always bad for one's well-being. *Eustress* caused by complex yet doable, enjoyable, or useful tasks lead to a positive stress response. It has a positive effect through fostering

development, mastery, high levels of performance, and growth by producing a sense of fulfillment or achievement. *Distress*, on the other hand, is an adverse stress reaction. It includes negative effects and physiological reactivity. It is a form of stress that occurs when people are overwhelmed by losses, perceived dangers, or expectations. It has a negative impact on humans by causing physical and psychological maladaptation and offering major health hazards. Any occurrence, force, or circumstance that causes bodily or emotional stress is referred to as a *stressor*. Stressors can be internal or external influences that need the affected person to change or develop coping techniques. General Adaptation Syndrome and Chronic Stress are results of extreme stress (APA dictionary).

General Adaptation Syndrome is a term used to describe the physiological effects of extreme stress. Alarm, resistance, and fatigue are the three stages of the syndrome. The first stage, the *alarm stage or reaction*, has two substages: the shock phase, which is marked by a drop in muscle tone, body temperature, and hypertension, as well as dehydration from body tissues; and the countershock phase, which is marked by an aroused sympathetic nervous system and an increment in adrenocortical hormones, provoking a defensive response, like the flight-or-fight response. The *resistance stage* (or adaptation stage) is characterized by physiological level stabilization. Hypertension can arise from high blood pressure, posing a risk of cardiovascular problems. Resources may be depleted, resulting in irreversible organ alterations. Irritation, sleep difficulties, uneasiness, severe lack of focus, tremors that impair motor coordination, jumpiness, tiredness, susceptibility to anxiety attacks, low startle threshold, weeping spells, and depressed mood are all signs of exhaustion (Selye, 1956).

The physiological or psychological response to a long-term internal or external stressful incident is known as *chronic stress*. The stressor does not have to be actually present in order to have an effect; memories of it might act as a base for its existence and help to maintain chronic stress (APA Dictionary).

According to research, about 46% of the workforce working in Indians organizations suffer from some of the other kinds of stress (Optum, 2016). Humans have been keeping animals as pets for centuries. Pets have been a wonderful and integral part of many families. The pet population in India has grown from about 7 million in 2006 to 10 million in 2011. About 6,00,000 pets are adopted each year in India (Priya & Nandhini, 2018).

More than a thousand Medicare enrollees were studied in the research, which comprised dog and non-dog owners. Dog owners reported fewer doctor visits than non-owners. The majority of participants stated that dogs provided them with a sense of protection, company, as well as opportunities for entertainment and relaxation. Pets allow people to bond with one another. Pets

are compassionate and caring in their love, and they help children learn to be responsible. Pets have a stress-relieving impact (Siegel, 1993).

Companion animals can also help people cope with stressful situations like the workplace (Schneider & Harley, 2006) or the hospital (Caprilli & Messeri, 2006). Animals linked with fear, on the other hand, generated negative emotions and stress reactions (Globisch et al, 1999). Pet ownership appears to have the greatest influence on health in people who are severely stressed or isolated from society (Zasloff & Kidd, 1994). Pet owners were significantly less depressed than nonowners within HIV/AIDS patients, and not just the overall LGBTQ community (Siegel, 1999).

Pets help manage stress, regulate feelings, and assist individuals in coping with distressing life situations by giving unconditional positive regard (Hunt and Stein, 2007). Pet ownership, or simply being in the presence of a companion animal, has been shown to improve people's mental and physical health. The majority of research on the health advantages of owning a pet or having a companion animal focuses on reduced discomfort and anxiety, reduced loneliness and depression, and increased exercise (Friedmann & Son, 2009).

Evidence documenting the advantages of pet ownership with regards to stress reduction, increased wellbeing, and pets as facilitators of social and interpersonal contact suggest that pets may have a positive impact on mental health (Bakerjian, 2014). However, a study (Watson & Weinstein, 1993) also found that having a pet did not decrease stress in female employees. Another study conducted on 148 adult females found no significant differences among the pet and non-pet owners (Zasloff & Kidd, 1994). No significant difference between the male dog owner and non-dog owners was observed in research in terms of anxiety, heart rate, or blood pressure (Straatman et al, 1997). A similar study conducted on 68 long-term residents showed that results where owning a pet did not cause any significant changes in moods and depression of the participants (Lutwack & Bloom, 2005). Another study found no major difference in participants' behavior using animal-assisted therapy (Banks & Banks, 2002). Research conducted on children with cerebral palsy found that there was no discernible impact of dog ownership on health, functioning, or satisfaction with the life of children (Davis et al, 2009). Research also found that dog ownership and deaths caused by cardiovascular diseases were not related (Ding et al, 2017). The notion that having a pet reduces anxiety and stress in people warrants more research (Rowan & Beck, 2015).

Dogs are the most common pets owned. Keeping a dog in the household implies a certain number of responsibilities such as bathing or frequent walks, especially for dogs. Keeping dogs as pets has its own set of benefits for the dog owner and his/her family. Dog owners are likely to

be more resistant to allergies, exercise more, have lesser cholesterol, be less prone to sickness, survive heart attacks, and generally be happier because of their positive attitudes towards life. Some studies suggest that dogs can be a great help in reducing stress problems in humans (Beetz et al, 2012)

On the contrary, some studies have shown that there are negative impacts of dog ownership, like severe distress associated with the actual loss of a pet. Pet loss, according to those who have experienced natural catastrophes such as hurricanes, can exacerbate acute trauma and raise the risk of long-term consequences. Given the intense and positive identification experienced with their pet, the loss of an animal may have a bigger impact on persons with diagnosable mental health issues, implying the need to include pets in the planning and delivery of mental health care. Moreover, dog bites and propensity to diseases like asthma, allergies, and heart attacks. Some other studies have shown that there is no relationship between health and dog ownership (Hunt et al, 2008).

This study investigated whether owning a pet dog impacts stress levels and whether any relationship exists between dog ownership and stress levels. In this study dog ownership was the manipulation or the cause (IV) and stress levels in individuals were the result of manipulation or the effect (DV). Based on the above literature this study hypothesized that dog ownership among the adult population does reduce their stress levels.

2. Method

This study made use of *quantitative comparative research design*. The study aimed to investigate whether owning a pet dog impacts stress levels among the adult population. Dog ownership (Cause) was the independent variable, and psychological stress (Effect) was the dependent variable studied in this research. Stress is also a latent variable. Based on the above-reviewed literature this study hypothesizes that:

H1: Dog ownership leads to a decrease in stress among the adult population.

Participants

A total of 120 participants were chosen for this study, out of which 60 were dog owners and 60 were non-dog owners. In this study, the method of *purposive or judgment sampling* was used, in which participants are chosen based on predetermined characteristics relevant to the research. An equivalent gender ratio was maintained among the participants. All of them also had a relatively similar socio-economic background and were the residents of New Delhi. They also had a specific exclusion and inclusion criteria.

Inclusion Criteria

Only the population above 20 years of age, with either at least one year of experience in dog-owning or no experience in dog ownership were investigated in this research.

Exclusion Criteria

Those having any preconceived medical, mental or physical illness or below the age of 20 were excluded from the research. This was done so because stress levels of those having illness would already be high, which could impact the results of the study. Those having any other pet along with a dog or other than a dog were also excluded from the study.

Tools and Techniques

The following scale was used to measure stress among the participants:

Perceived Stress Scale:

The 14-item self-report Perceived Stress Scale (PSS; Cohen et al., 1983) is commonly used to estimate the severity of stressful situations in one's life (Cohen et al., 1983). The PSS questions are broad in nature rather than event-specific, and evaluate the amount to which people consider their lives to be “unpredictable, unmanageable, and overloading” as a global stress measure (Cohen et al., 1983, p. 387). On a five-point scale ranging from (0) Never to (4) Very Often, respondents rate the frequency of their sentiments and thoughts regarding life events and situations over the last month. The PSS generates a total score that describes the overall stress perception. By deleting the four items with the lowest factor loadings (Items 4, 5, 12, and 13) from the original scale, a 10-item version of the PSS (PSS-10; Cohen and Williamson, 1988) was created (PSS). The PSS-10 was suggested for further research by the scale's creators because it had psychometric qualities comparable. Since then, numerous research has found that the PSS-10 has strong internal consistency reliability and adequate convergent validity based on connections with physical and mental health variables (e.g., Barbosa-Leiker et al., 2013; Golden-Kreutz et al., 2004; Reis et al., 2010). (e.g., Mitchell et al., 2008; Roberti et al., 2006; Wu and Amtmann, 2013). to the original 14-item form. $r = 0.34, p < 0.001$) and health-care utilisation ($r = 0.22, p < 0.001$).

The scale was distributed via both online and offline modes. Relevant demographic data such as age, gender, occupational level, socio-economic status, relationship status, the number and the types of pet owned and the duration of ownership was also obtained. A paired t-test was conducted on the data obtained using the SPSS software version 26.0 to do the comparative analysis of the stress levels experienced by the dog owners and the non-dog owners.

3. Results And Discussion

Table 1

Shows the paired sample statistics of stress levels experienced by dog and non-dog owners

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Dog Owner	42.67	60	8.37	1.081
	Non-dog Owner	50.833	60	11.866	1.531

Source: SPSS Version 26.0

Table 2

Shows the paired samples test of stress levels experienced by dog and non-dog owners

	Paired Differences					Significance			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
Pair 1 Dog Owner - Non-dog Owner	-8.166	8.895	1.148	-10.464	-5.868	-7.112	59	< 0.001	< 0.001

Source: SPSS Version 26.0

The goal of the present study was to determine whether there exists a relationship between dog ownership and the stress levels. This study hypothesised that dog ownership causes a decrease in the stress levels experienced by adults. Perceived Stress Scale was used to measure the stress levels of the participants. Relevant demographic information was also obtained. A paired-samples t-test was conducted to compare the stress levels experienced by 60 dog owners and 60 non-dog owners. There was a significant difference in the scores of the stress levels of dog owners (M=42.67, SD=8.370) and non-dog owners (M=50.833, SD=11.866) condition; $t(59) = -7.112$, $p = 0.001$ (Refer to table 1 and table 2). Since $p = 0.001 < 0.05$, it is statistically significant and indicates that the null hypothesis can be rejected. There is less than 5% probability of the null hypothesis being correct.

These results suggest that dog ownership does have an impact on stress levels. Specifically, these results indicate that when people own a dog, the levels of stress experienced by them decrease.

However, this study had several limitations. This study being a cross-sectional study did not have an equal number of participants from all the age groups. More control variables could have been

controlled so that stress experienced by the respondents does not get affected by them. Since, participants belonged to different age groups the results obtained are difficult to generalise. A longitudinal and mixed research design could have been a more suitable method. Demographic data such as the time spent with the animal on a daily or weekly basis and the degree of attachment was not measured. Moreover, using dog-ownership as the sole criterion for studying stress levels can be misleading. Other variables such as personality and social support may exist, which went unaccounted for in the study.

4. Conclusion

The aim of this study was to determine how dog ownership impacts stress levels. It was hypothesized that dog ownership would be associated with lower levels of stress. The findings indicated that dog-ownership was associated with fewer symptoms of stress. Dog ownership is associated with fewer symptoms of stress, but can this relationship be affected by many other variables. Further studies are needed to determine the extent to which other factors affect stress, such as pet attachment and duration of pet ownership, that were not addressed in this study.

5. Acknowledgements

I would like to thank my psychology teacher Mrs. Jyotika Chugh, under whose supervision I completed this project. I would like to thank Mrs. Aparna Gakhar, Research Assistant, Jamia Milia Islamia, for her continuous guidance throughout this project. Lastly I would like to thank my parents, without whose support this project would not have seen the light of the day. No funding was required for this research.

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