

Are Pets making you Empaths: A Study on the Degree of Empathy of Adult Pet Owners of India

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ABSTRACT

Background: Some work has been done to test the intuition that having pets might affect the degree of empathy pet owners display. The current literature suggests that no such causal relationship can be established between these two variables, however, these findings are limited in scope. To the best of our knowledge, no such studies have been conducted on the adult population of India and that is the primary driving force behind this study. **Objectives:** Our objective was to find if owning pets makes adult individuals more empathetic and to see if our findings on adults show congruence with the findings of studies conducted on children. **Methods:** The Toronto Empathy Questionnaire (TEQ) was self-administered by a sample of adults (n = 196) belonging to two groups: pet owners (n = 100) and controls (n = 96) and their mean TEQ scores were compared. **Results:** The mean TEQ scores for pet owners was 26.17 ± 10.03 and for the controls was 28.25 ± 12.41 . The computed t-score between the TEQ scores of the two groups came out to be statistically insignificant. **Conclusion:** The findings of the study confirm the findings in the present literature on children that owning pets have no effect on the degree of empathy and the results can be extended to adults as well.

Keywords: Empathy, pet ownership, psychological well-being, animals, human-animal bond.

Pet ownership has been linked with various domains of functioning, ranging from physiological to psychological functioning. From a very early point in the timeline of psychiatric literature, the positive influences of having pets have been documented. The most extensively studied feature of pets' health advantages is companionship. Having a pet as a company frequently reduces loneliness and enhances one's psychological and physical state (Friedmann and Thomas, 1985) and this human-animal bond can actually be traced back to prehistoric times. According to fossil evidence from half a million years ago, *Homo erectus* and a canine-like species coexisted (Messent and Serpell, 1981), and even before establishing agricultural villages, people kept tamed and wild animals as pets (Savishinsky, 1983).

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From a physiological perspective, benefits were multidimensional, ranging from a lower risk of heart attack (Friedmann, 1980), systemic hypertension (Krittanawong et al., 2020) and other cardiovascular conditions (Anderson et al., 1992; Mubanga et al., 2017; Yeh et al., 2019), to respiratory conditions like allergies and atopy-related diseases (Ownby et al., 2002; Nafstad et al., 2001). In the case of neurological sciences, dog treatment and ownership have been shown to enhance mood, quality of life, and disease symptoms in various neurological diseases. Additionally, it promoted physical exercise, which has been found to be beneficial for many disorders, including those linked to skeletal muscle apoptosis, such as Huntington's disease. Owning a dog and participating in dog therapy are secure and reliable non-pharmaceutical approaches to treating neurological illnesses that are progressive and chronic (Boldig and Butala, 2021). The literature also shows benefits in terms of delayed progression (Rusanen et al., 2021) and management of certain psychosocial symptoms (Churchill et al., 1999) of neurodegenerative disorders like Alzheimer's disease. From the perspective of mental wellness and psychological well-being, a lot of research shows promising effects of pet ownership - particularly in the areas of loneliness and social isolation (Stanley et al., 2014; Zasloff and Kidd, 1994; Kretzler et al., 2022; Black, 2012), increased happiness and psychological well-being (Bao and Schreer, 2016; Wells and Rodi, 2000; McConnell et al., 2011) and interestingly large body of literature highlighted this relationship during the COVID-19 pandemic (Damberg and Frömbling, 2022; Amiot et al., 2022).

Researchers endorse the concept of empathy, and its pervasiveness illustrates the critical part it is thought to play in social interactions and human well-being (Hall and Schwartz, 2019), but its definition has evolved over time, and this "time" can be considered to be a span that is well over a 100 years. Titchener, using the German word *Einfühlung* as a starting point, coined the phrase "empathy" more than a century ago (Wispé, 1986). Despite having this long history, the concept of empathy is not clearly defined. Wispé (1986) himself defined empathy as "The attempt by one self-aware self to comprehend unjudgmentally the positive and negative experiences of another self." while the original definition by Titchener as cited by Duan and Hill (1996) goes as "A process of humanizing objects, of reading or feeling ourselves into them."

The current understanding of empathy links it with many aspects of psychological well-being in a wide variety of individuals (Choi et al., 2016; Vinayak and Judge, 2018; Khajeh et al., 2014). Since it has already been established previously that well-being is proved to be significantly affected by owning pets, and empathy, in turn, is related to well-being, the question arises if owning pets makes individuals more empathetic in nature. This problem has been addressed by a body of research findings but the findings seem to be limited in terms of scope. From our review of the literature, it might seem intuitive that individuals with pets should show more empathy, but Daly and Morton (2003) proved that children who were owners of pets and the ones who were not (i.e., non-owners) both displayed the same level of empathy, but when they extended these findings to elementary students and adults, they found that the ones with pets showed higher empathy scores. (Daly and Morton, 2006; 2009). The findings in this area of research are conflicting, and no such study has been conducted on the Indian population, which is why the current study was conducted where we tried to find a causal link between ownership of pets and empathy if any.

METHODS

Hypothesis:

Null Hypothesis (H₀): There is no significant effect of owning pets on the level of empathy of Indian adults.

Participants:

The study focussed on adult pet owners and pet non-owners who served as the controls for the pet owners. Initially data was collected from a total of 200 participants, but 4 of the responses had to be excluded because of incomplete data. Finally, 196 participants were included in the study of whom approximately 49% (N = 96) belonged to the experimental group and the rest (N = 100) belonged to the control group of pet non-owners. The demographics are summarized in the following table.

Table 1: The Demographic Characteristics of the Sample

<i>Categories</i>	<i>Male</i>		<i>Female</i>	
	<i>N</i>	<i>Mean Age (years)</i>	<i>N</i>	<i>Mean Age (years)</i>
<i>Pet Owners</i>	34	27.11 (10.87)	62	25.64 (9.59)
<i>Pet Non-Owers</i>	49	27.22 (11.92)	51	29.23 (12.9)

Instruments:

The Toronto Empathy Questionnaire (TEQ) by Spreng et al., (2009) was used as the psychometric tool to measure the dependent variable, that is, empathy. The tool is a unidimensional, brief, and valid instrument for the assessment of empathy. The TEQ was created to mainly assess empathy as an emotional process but still captures variance associated with cognitive measures of empathy (Xu et al., 2020). The developers of the test sought to build a tool that would adequately evaluate a person's overall ability for empathy as a core process including different levels, which other measures of empathy can fall short of due to their heterogeneity of concepts and constructions (Ickes, 1997). The TEQ has been shown to have acceptable validity and reliability in a variety of demographics (Youssef et al., 2014) thus making it an unbiased measure of empathy as a dependent variable.

Procedure:

The Toronto Empathy Questionnaire (TEQ) was administered by using Google Forms for ease of being administered online to the participants. A group of 196 participants was collected using a snowball sampling design. Basic demographic data like age and sex were also collected using the same form. After the collection of the data, statistical analyses were done using *Jeffrey's Amazing Statistical Program (JASP Version 0.15.0.0)*. The hypothesis was tested by computing the difference between the mean TEQ scores for both the experimental and control groups, and the results were discussed in light of the existing literature.

RESULTS

The two groups had no significant difference in age ($P = 0.199$) and the mean TEQ scores for pet owners was 26.17 ± 10.03 and for the controls was 28.25 ± 12.41 . The computed t-score between the TEQ scores of the two groups came out to be -0.695 ($P = 0.488$).

DISCUSSION

From a Neural Perspective:

The brain processes that underlie human empathy have been the subject of thousands of investigations. In the past, the majority of this research concentrated on providing a thorough description of the two subprocesses of experience sharing and mentalizing. (Zaki and Ochsner, 2012). Even though these two components are essentially directed towards the same objective, that is, to understand other people's mental states, their neural substrates are surprisingly different. The brain activity that accompanied these two processes appeared to be almost entirely non-overlapping until recently. In other words, activities and social cues that activated one of these systems usually did not also activate the other system (Van Overwalle and Baetens, 2009). The extensive psychological literature on empathy, which sees these processes—along with prosocial motive and other phenomena—as fundamentally interactive, did not, however, seem to support this neural understanding of empathy. To put the neuroscientific pieces of evidence together, regions like the inferior parietal lobule (IPL), the temporoparietal junction (TPJ), the posterior superior temporal sulcus (pSTS), the temporal pole (TP), the anterior insula (AI), the premotor cortex (PMC), the posterior cingulate cortex (PCC), the anterior cingulate cortex (ACC), and the medial prefrontal cortex (MPFC) are among the brain areas linked to experience sharing and mentalizing (Zaki and Ochsner, 2012). The findings of our study do not warrant an interaction between *empathy circuitry* and owning pets. In other words, based on our self-report data, we can hypothesize that owning pets does not have any changes in the neural structures associated with empathy, even though they might seem to be related intuitively.

From an Interactionist Perspective:

From a psychological perspective, a major area to think about is the nature or nurture influence on empathy. Owning a pet is an experience that is brought about by the “nurture” component. It has been proved that growing up with pets in the house leads to better socioemotional development in children (Vidović et al., 1999). This can be understood with the conceptual framework of Urie Bronfenbrenner's model of development (Bronfenbrenner, 1986). A transactional (bidirectional) relationship exists between the social environment and the child. According to Bronfenbrenner's theory, the ecological system can be thought of as a collection of interconnected layers of context that are concentric. The child is at the heart. Human interactions, love, and empathy are taught in the nuclear family today. Animal companions might be more crucial in these situations than they were when extensive families and tight-knit communities offered greater learning opportunities for meeting socioemotional requirements (Levinson 1980). Vidović and colleagues (1999) successfully found effects of pet ownership on empathy, but again in children (Vidović et al., 1999), that can successfully be explained by the model proposed by Bronfenbrenner. But similar findings are difficult to extend to the adult population, as suggested by our study.

Future Directions

Since a lot of work is being conducted to understand the neural substrates of empathy, it might be interesting to see the BOLD-fMRI activity of pet owners during an emotional task and compare that with controls too see how the brain responds in the two groups. The findings of such studies can be extended to the therapeutic domain by involving animals in treatment of affective disorders or disturbances in case of other psychiatric or neurological conditions.

CONCLUSION

The study conducted was the first of its kind in the adult Indian population, but the results are heavily in support of certain previously done studies on some western countries and children - there is no statistical difference in the empathy scores of pet owners versus pet non-owners. In other words, the intuition that owning pets might make people more empathetic is not statistically correct and the present study successfully confirms, validates, and replicates the findings of the existing literature in this specific research area.

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Are Pets making you Empaths: A Study on the Degree of Empathy of Adult Pet Owners of India

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Are Pets making you Empaths: A Study on the Degree of Empathy of Adult Pet Owners of India

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Conflict of Interest

The author(s) declared no conflict of interest.

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