Pets as Emotional Scaffolds: Contrasting Human Animal Bond, Emotional Regulation, Empathy, Stress, Attachment Styles and Resilience in Pet owning and non-Pet owning Families

Priya Bhatnagar [1] and *Rhisikesh Dave [2]

[1] Assistant Professor, Department of Psychology, Aryabhatta College, University of Delhi, Delhi, India
[2] Dean, Sharda School of Law, Sharda university, Greater Noida, U.P., India
rhishikesh.dave@sharda.ac.in

Abstract. The present research investigates the psychological aspects of pet ownership by comparing the levels of Emotional Regulation (Emotion Regulation Questionnaire, ERQ), Empathy (Toronto Empathy Questionaire, TEQ), Perceived Stress (Cohen's Perceived Stress Scale, PSS), and Resilience (Brief Resilience Scale, BRS) amongst pet-owning (n = 85) and non-pet-owning (n = 85) families within the urban Indian context. The quantitative results were analyzed using independent samples t-tests and correlation, whereas the results of the semi structured interviews were analyzed using thematic analysis. The numeric results showed that the levels of cognitive reappraisal, empathy, and resilience were significantly higher in the pet families than the non-pet families, whereas the results for expressive suppression and perceived stress were only marginally non-significant. The results of the thematic analysis provided insights into the human-animal bond as a dynamic source of emotional regulation, with the participants referring to their pets as 'silent therapists' and 'unconditional companions.' The results also showed that the attachment style of the participants played a moderating role, with the securely attached participants showing the highest benefits of pet ownership.

Keywords: Emotional Regulation, Empathy, Perceived Stress, Resilience, Attachment Style

1 Introduction

The interface between human well-being and companion animal relationships has been a topic of significant academic interest in recent decades. Pets, such as canine, feline, avian, and small mammal companions, are situated in a state [1]of liminality in

R. Dave et al. (eds.), *Proceedings of the International Conference on Conceptualizing Legal Framework and Policies for Domestic Animal and Wildlife Conservation: Issues and Challenges in Hybrid Mode (ICAR 2026)*, Atlantis Highlights in Social Sciences, Education and Humanities 52,
https://doi.org/10.2991/978-94-6239-725-5_15

family structures, acting as social companions, emotional reflections, and stress reducers [1]. The conceptual underpinnings for this relationship are supported by a number of converging theories.

Attachment Theory, as conceptualized by [2], was originally designed to explain human infant attachment, yet its principles were extended by [3] and [4] to encompass human-animal relationships, where pets are considered subsidiary attachment figures with the capacity for eliciting proximity-seeking behaviour, especially in a state of threat. This is not a metaphorical extension, as neurobiological evidence indicates that oxytocin-mediated bonding, as a result of human-pet gazing, activates identical brain structures as those activated in human dyadic attachment relationships [5]. The Social Support Theory, as conceptualized by [6], offers a further framework for conceptualizing companion animal relationships as perceived social resources, which mitigate stress appraisal via perceived availability and non-judgmental responding.

The Process Model of Emotion Regulation by [7] has cognitive reappraisal and expressive suppression as the two major modes by which emotional responses are regulated. There are instances where pet owners often comment that their interactions with pets spontaneously generate reappraisals of threatening or stressful situations. For example, a neighbor's dog accidentally bumping against one's leg during a stressful phone call reappraises the emotional situation. Lazarus & Folkman's Transactional Model of Stress & Coping further situates the appraisal effects of pet ownership by seeing the pet as a coping resource that influences both primary & secondary appraisals [8].

Empathy, a multidimensional construct that has both affective & cognitive dimensions [9] has also been implicated in the effects of pet ownership by seeing it as a means by which social learning & practice generate a capacity for empathy. Seeing & interpreting the non-verbal cues of a pet has been implicated in the development of empathy in children & adults that generalizes to interpersonal relationships [10], a finding that is supported by Bandura's Social Learning Theory [11].

The construct of resilience—a dynamic positive adaptation to severe adversity [12]—has been related to relationships with companion animals. The mechanism is

perceived to be social support received from the animal, the sense of structure provided by the animal, as well as the promotion of physical activity [13]. The introduction of the Indian context will add another layer to the complexity. The collectivist context [14], wherein the sense of responsibility for the family is high and people are less inclined to discuss personal experiences with others due to a sense of shame or fear of ridicule, the animal-human relationship with its unique characteristic of a non judgmental and non-mutual relationship could be a significant source of emotional release for the individual. However, the research in the area is patchy. The majority of the research is conducted on Western populations with an individualistic orientation [15], is mostly cross-sectional with self-reported data on a single component of the relationship in isolation. Research lends support to pet owners having a more quiescent cardiovascular response to social stress than non-owners, even when a spouse is present [16]. The literature landscape suggests the paucity of researches exploring the complexity of the experience of the human-animal bond from the human end in Indian context. This research will address the gaps with a convergent approach to mixed research design with the added benefit of exploring the relationship between attachment style and the human-animal bond.

2 Statement of Problem

Urban Indian families are witnessing an increase in psychosocial challenges such as job stress, changes in family dynamics, and a lack of community support. At the same time, there is an increase in the number of people owning pets in urban cities by an average of 11% per annum [17]. The underlying psychological factors for this trend have not been extensively studied in the Indian population. Whether owning a pet contributes to variations in emotional responses, empathy, stress, and hardiness and the underlying qualitative factors for these differences remain a mystery.

3 Literature Trends

Research lends support to the presence of pets as emotional scaffolds. This implies that the pet relationship is unique in its ability to buffer stress, beyond simple social

support effects. An earlier study by [18] offered some epidemiological evidence that pet owners had increased survival after a heart attack during a one-year period, prompting a flood of health outcome studies.

From a psychological point of view [19] proposed that pets serve as a catalyst for social interaction, helping owners increase their social support networks indirectly. Literature landscape included a metareview on human-animal interaction and stress, indicating that the best evidence for reducing stress was mediated through oxytocin levels, although this was species- and interaction-type-dependent, also depending on individual attachment patterns [20]. The impact of pet ownership on attchmemt styles amongst adolescents also revealed avoidant and anxious attachment styles determined the size of the psychological benefits received.

Presence of pets has been well corelated higher degree of empathy. However, researches also cautioned that the relationship may be the opposite: that people with greater empathy might simply be more inclined to adopt a pet in the first place [21]. [22] emphasized the therapeutic potential of animal-assisted interventions for clinical populations with difficulties in emotional regulation. [23] outlined the neurochemical changes that occur during human-dog interactions, which include increases in oxytocin, prolactin, dopamine, and beta endorphins.

In the case of India, the research is still in its early stages. [24] found that urban pet owners in India reported lower levels of loneliness. [25] found some tentative evidence that working women with pets report lower anxiety. However, these studies did not employ a multi-construct measure or qualitative component to the research. Therefore, it is difficult to interpret the results.

4 Research Questions

RQ1: Is there a difference in emotional regulation strategies (cognitive reappraisal and expressive suppression), empathy, perceived stress, and resilience between pet-owning and non-pet-owning families?

RQ2: What are the patterns and directions of the relationships between the constructs under examination for the pet-owning group compared to the non-pet-owning group?

RQ3: How do the members of the pet-owning families spontaneously report the presence of the animal in the context of emotional experiences? What are the thematic characteristics of the human-animal bond?

RQ4: How does the level of attachment style differ between the members of the pet-owning and the non-pet-owning families? How does it affect the psychological correlates of pet ownership?

5 Objectives

The study is designed to:

1. Examine differences in emotional regulation strategies (such as cognitive reappraisal, expressive suppression), empathy, perceived stress levels, and resilience between pet-owning families and non-pet-owning families, utilizing established measures of these constructs.
2. Examine associations between these psychological constructs within each group of participants.
3. Examine the qualitative aspects of the human-animal bond, or pet-owning experiences, through semi-structured interviews.
4. Compare attachment style between pet-owning family members and non pet-owning family members.
5. Integrate the above findings into a cohesive framework of understanding the role of pets as emotional scaffolding agents

6 Hypotheses

H1: Pet-owning family members will show a significant difference in cognitive reappraisal and expressive suppression compared to non-pet-owning family members.

H2: Pet-owning family members will show a significant difference in empathy compared to non-pet-owning family members.

H3: Pet-owning family members will show a significant difference in perceived stress compared to non-pet-owning family members.

H4: Pet-owning family members will show a significant difference in resilience compared to non-pet-owning family members.

H5: Secure attachment style will be more in pet-owning family members compared to non-pet-owning family members.

7 Method

7.1. Research Design

A convergent parallel mixed-methods design was used [26] whereby both quantitative and qualitative data collection, analysis, and interpretation occur simultaneously. This method allows for the extension of the quantitative results by the addition of qualitative data.

7.2. Participants

A total of 170 adult family members (primary decision-makers/caregivers aged 22 to 55 years) were selected from the urban areas of Ghaziabad and Delhi NCR, India. Purposive sampling along with snowball sampling was used to recruit the participants. Group 1 (Pet Owners): N = 85, families having domestic, companion animal for a period of at least six months. All kinds of pet were included in the study. Group 2 (Non-Pet Owners): N = 85, families without a history of pet ownership. The criteria to exclude the participants were a current psychiatric diagnosis, the use of psychotropic drugs, and ongoing psychotherapy. For the qualitative study, a purposive sample of 10 pet-owning families were selected on the basis of maximum variation among the families on the types of families, types of pets, and socioeconomic status.

7.3. Instruments

Emotion Regulation Questionnaire (ERQ) [27]: A 10-item instrument measuring cognitive reappraisal (6 items; e.g., "When I want to feel less negative emotion, I change what I'm thinking about") and expressive suppression (4 items). Participants rate each item on a 7-point Likert scale. Cronbach's α for the reappraisal and suppression scales was .79 and .73, respectively.

Toronto Empathy Questionnaire (TEQ) [28]: A 16-item unidimensional instrument measuring social-cognitive empathy. Individuals with higher TEQ scores are more empathic. Cronbach's α was .81 in the present study.

Cohen's Perceived Stress Scale (PSS-10) [29]: A 10-item global perceived stress scale measuring perceived stress over the last month. Individuals with higher PSS-10 scores indicate greater perceived stress. Cronbach's α was .82 in the present study.

Brief Resilience Scale (BRS) [30]: A 6-item instrument measuring the capacity for bouncing back from stressful events. Individuals with higher BRS scores indicate greater capacity for resilience. Cronbach's α was .78 in the present study.

Experiences in Close Relationships–Revised (ECR-R) [31]: A 36-item instrument measuring anxiety and avoidance dimensions of adult attachment styles. This instrument was used for attachment style classification (secure, anxious, avoidant, disorganized) for the qualitative study.

Interview Schedule: A 28-item interview schedule was constructed to explore the experiences of human animal interaction amongst pet-owning families. The items were structured domains of human animal bond, empathy, emotional regulation, resilience and stress amongst pet owning family members.

7.4. Procedure

After obtaining Institutional Ethics Committee approval and informed consent, participants completed the battery of self-report measures in a quiet setting. Qualitative interviews lasted between 45–60 minutes and were semi-structured. They were conducted in Hindi or English, audio-recorded, and transcribed verbatim. Bilingual transcription was used for authenticity. The interview guide asked participants for a description of their pet interactions, emotional impact, and relational dynamics.

7.5. Statistical Analysis

The analysis of the quantitative data was done using SPSS v.26. Independent sample t-tests were used for comparing means. Pearson correlation matrices were computed for pet-owning and non-pet-owning groups separately. The effect size was computed using Cohen's d for all statistical tests. The alpha level was set at .05 (two-tailed).

7.6. Qualitative Analysis

The interview transcripts were subjected to Reflexive Thematic Analysis, which is a six-step process: familiarization, initial coding, generation of themes, review of themes, defining and naming themes, and write-up. The bilingual data was left in its original form and transcribed for thematic analysis.

8. Results and Analysis

8.1. Quantitative Findings

Table 1. Demographic description of pet Breeds/ Species wise distribution

Pet type	n	%	Breeds/species
Dog	38	44.7%	Labrador, Beagle, Spitz, Indian Pariah Golden Retriever
Cat	22	25.9%	Domestic shorthair, Persian, Stray-adopted
Bird	12	14.1%	Budgerigar, Cockatiel, Lovebird, Parrot
Small mammal / fish	8	9.4%	Rabbit, Guinea pig, Goldfish, Hamster
Multiple species	5	5.9%	Dog + cat (3); Dog + bird (2)

Table 1 shows the aspects on demographic description of pet breeds (Source- self created by author)

Table 2. Demographic description of various pet wise distribution

Duration of ownership	n	%	Most common pet type in bracket
1 – 3 years	24	28.2 %	Dog (12), Cat (8), Bird (4)
3 – 5 years	27	31.8 %	Dog (14), Cat (7), Small mammal (4), Bird (2)
5 – 8 years	15	17.6 %	Dog (8), Cat (5), Multiple species (2)
More than 8 years	8	9.5%	Dog (5), Multiple species (2), Bird (1)

Table 2 shows the aspects on demographic description of various pet (Source- self created by author)

Table 3. Descriptive Statistics by Group

Variable	Pet-owners M(S.D.)	Non-Pet owners M(S.D.)
Cognitive Reappraisal	4.92 (0.88)	4.31 (0.95)
Expressive Suppression	3.44 (0.91)	3.61 (0.87)
Empathy (TEQ)	51.3 (7.2)	46.8 (8.1)
Perceived Stress (PSS)	17.6 (5.4)	19.1 (5.8)
Resilience (BRS)	3.71 (0.64)	3.38 (0.72)

Table 3 shows the descriptive statistics by group (Source- self created by author)

Table 4. Independent Samples t-Test Results

Variable	T	N	p	Cohen's d	Significance
Cognitive Reappraisal	3.41	168	.001**	0.67	Significant
Expressive Suppression	1.03	168	.305 (ns)	0.19	Non-significant
Empathy (TEQ)	2.98	168	.003**	0.59	Significant
Perceived Stress (PSS)	1.54	168	.126 (ns)	0.27	Non-significant
Resilience (BRS)	2.67	168	.008**	0.48	Significant

Note:. ***p < .01 (two-tailed). ns = non-significant*

Table 4 shows the independent samples t-Test Results (Source- self created by author)

Table 5. Attachment Style Distribution by Group (ECR-R Classification)

Attachment Style	Pet Owners (%)	Non-Pet Owners (%)
Secure	62.4	48.2
Anxious	16.5	27.1
Avoidant	14.1	18.8
Disorganised	7.0	5.9

Table 5 shows the attachment style distribution by group (Source- self created by author)

Table 6. Correlation Matrix — Pet-Owning Families

Variable	1	2	3	4	5
Cognitive appraisal	—				
Expressive suppression	−.18*	—			
Empathy	.36**	−.12 (ns)	—		
Percieved stress	−.29**	.21*	−.24*	—	
Resilience	.41**	−.19*	.31**	−.44**	—

Note: ***p < .01; *p < .05; ns = non-significant.*

Table 6 shows the Correlation Matrix (Source- Self created by author)

Table 7. Correlation Matrix — Non-Pet-Owning Families

Variable	1	2	3	4	5

Cognitive appraisal	—				
Expressive supression	−.09 (ns)	—			
Empathy	.19*	−.07 (ns)	—		
Percieved stress	−.14 (ns)	.17*	−.16 (ns)	—	
Resilience	.22*	−.11 (ns)	.20*	−.38**	—

Note: ***p < .01; *p < .05; ns = non-significant.*

Table 7 shows the Correlation Matrix — Non-Pet-Owning Families (Source- Self created by author)

8.2. Qualitative Findings

8.3. Table 8. Qualitative Findings of Correlation Matrix — Non-Pet-Owning Families

#	Theme	Subtheme	Core focus	Illustrative bilingual excerpt
THEME 1 — PET AS EMOTIONAL ANCHOR				
1a	Pet as Emotional Anchor	Non-verbal attunement	Animals sense distress before verbal expression; owners experience being "read" without words	*"Jab main bahut stressed hoti hoon, woh bina kuch kahe mere paas aa ke baithh jaata hai. Jaise usse pata ho." — Meera, 38, dog owner*
1b		Uncondi-tional positive regard	Acceptance felt as non-judgmental; no emotional per-formance required from the owner	*"Usse nahi pata main kitna kamata hoon, kaisa dikhta hoon. Woh bas mujhe chahta hai."— Rajan, 44, Labrador owner*
THEME 2 — PET AS REGULATORY RESOURCE				
2a	Pet as Regulatory Resource	Distraction & attentional redirection	Interaction inter-rupts rumination; attention is redi-rected to the present moment (functional mindfulness)	*"Office ke baad agar bahut gussa hota hai, toh use khilaata hoon. Woh sab bhulaata hai." — Sanjay, 41, cat owner*

2b		Routine & structure as resilience scaffolding	Daily care obligations provide purpose, agency, and structure — especially during low-mood periods	*"Uski wajah se subah uthna padta hai. Kabhi kabhi yahi ek kaam hota hai jo mujhe bed se uthata hai."* *— Priya, 33, dog owner*
THEME 3 — PET AS SOCIAL BRIDGE				
3a	Pet as Social Bridge	Facilitation of family cohesion	Pet becomes a shared positive focal point, reducing interpersonal tension within the family system	*"Ghar mein agar koi tension ho, toh woh aata hai aur hum dono uske saath khel ne lagte hain... aur jo bhi tha woh thoda theek ho jaata hai."* *— Anita, 36, Spitz owner*
3b		Empathy development through caretaking	Interpreting animal cues builds perspective-taking capacity, especially in children; generalises to human relationships	*"Bete ko pehle samajh nahi aata tha ki doosron ko kya lag raha hai. Tommy ke baad woh poochhta hai — 'Mumma, Tommy dard mein hai kya?'"* *— Kavita, 40, Beagle owner*
ATTACHMENT STYLE & RELATIONAL RISK				
	Anxious over-reliance on pet	Compensatory substitution	Anxiously attached owners may substitute pet relationships for human ones, reinforcing rather than remediating insecurity	*"Pehle log nahi samjhte the. Ab toh main sirf usse hi baat karta hoon."* *— Rohit, 29, anxiously attached dog owner*

8.4. Table 8 shows the **Qualitative Findings of Correlation Matrix — Non-Pet-Owning Families (Source- Self created by author)**

9. Discussion

The human animal bond has been observed to be one of the most precious ties contributing to the evolvement of human and animal species. The research aimed to explore the differences in pet owning on non- pet owning families on variables of empathy, resilience, emotional regulation, stress and attachment style. Data from 85 pet owning and non- pet owning families was quantitatively analyzed. 10 pet owning families were interviewed on dimensions of human animal bond and qualitatively analyzed.

H1: Pet-owning family members will show a significant difference in cognitive reappraisal compared to non-pet-owning family members. Cognitive reappraisal as a dimension of emotional regulation entails with reinterpreting of the antecedents causing emotional distress. The results of the present research depicted a significant difference between pet owning and non-pet owning families ($t = 3.41$, $p < .001$, $d = 0.67$). Pet-owning family members scored significantly higher on cognitive reappraisal, hence confirming the hypotheses. This result is consistent with the assertion that "pets are attachment resources that enhance regulatory flexibility" [32]. In the case of the pet-owning group, the relationship between cognitive reappraisal and resilience is moderately positive ($r = .41$, $p < .01$), whereas the relationship between cognitive reappraisal and perceived stress is moderately negative ($r = -.29$, $p < .01$), implying that reappraisal acts as a mediator in the relationship between pet ownership and well-being. In the case of the non-pet-owning group, the relationship between cognitive reappraisal and resilience is lower ($r = .22$), whereas the relationship between cognitive reappraisal and perceived stress is negative but does not reach the level of significance ($r = -.14$), implying that the relationship between reappraisal and well-being is less robust without the catalysing effect of the interaction with the animal. The qualitative results shed further light on the mechanism: "In order to understand the animal's non-verbal communication, to decide whether the animal is hungry, in pain, or wants attention from the human, the reappraisal ability is practiced as the cognitive interpretive mechanism is habitually engaged in a low-stakes context." This is consistent with the assertion of [33], who claimed that "reappraisal is a skill that is facilitated by the repeated activation of

the reappraisal mechanism." The correlation matrix supports the notion that reappraisal is a mechanism that is catalysed by the interaction with the animal.

H2: Pet-owning family members will show a significant difference in empathy compared to non-pet-owning family members. The ability of the human to resonate with pain of others tends to be their unique characteristic. Presence of pets in families could enhance this ability since it requires understanding the needs of the pet in their silence. Substantial empathic advantage reflecting in their care, nurturance and presence generalises for pet owners. The results of the present research established a difference between the pet owning and non pet owning families on the variable of empathy ($t = 2.98$, $p < .01$, $d = 0.59$) Interestingly, the TEQ reappraisal correlation is stronger for pet-owning families ($r = .36$, $p < .01$) compared to non-pet-owning families ($r = .19$, $p < .05$). This suggests that empathic sensitivity and regulation are more functionally related in the context of animal relationships, which would be consistent with the idea that understanding an animal's state requires both cognitive (interpretive) and affective (resonant) processing to occur simultaneously. The qualitative data also helps to understand the developmental pathway to empathic abilities by showing that all participants talked about the relationship with their pet requiring an ongoing practice of perspective-taking towards a non-verbal other. This is consistent with conceptualisation of empathic abilities as being trainable via interpersonal experience and evolvement in children's empathic abilities as specifically emerging via their pet-care responsibilities [34].

H3: Pet-owning family members will show a significant difference in perceived stress compared to non-pet-owning family members. Stress has become a common denominator amongst all age groups. Management of stress has occupied an imperative place in physical and psychological contexts. In the present research, presence of pet ownership depicting a difference among families was examined. Contrary to the hypothesis, the groups did not significantly differ on the measure of perceived stress ($t = -1.54$, $p = .126$, $d = 0.27$). This non-significant finding needs to be interpreted rather than dismissed. Cohen's $d = 0.27$ is a small effect size in the expected direction. This might suggest the study might have been underpowered to detect a real though small effect or that the global measure of perceived stress might not be as modifiable

by pet ownership as the more state-like stress reactivity. Qualitatively, the participants do report the pets to be stress-moderating on an episodic basis. However, some participants do comment on the inability of the pets to buffer against the more global stressors such as financial pressures, job demands, or relationship issues. This distinction between episodic stress reactivity and global stress appraisal might explain the non-significant group difference on the measure of perceived stress. The correlation between the PSS and the BRS is similarly high in both groups (pet owners $r = -.44$, $p < .01$; non-pet owners $r = -.38$, $p < .01$). This suggests that the dynamics of stress resilience are universal processes not dependent on pet ownership. The originality of the current study lies in its challenge to the popular assumption that pets are generally beneficial to an individual under stress.

H4: Pet-owning family members will show a significant difference in resilience compared to non-pet-owning family members. Pet owners scored significantly higher on the measure of resiliency. The findings suggested a significant difference between pet owning and non pet owning families on measure of resilience ($t = 2.67$, $p < .01$, $d = 0.48$), hence confirming the stated hypothesis. The difference could be attributed to the emotion physical and social support provided by the pets in times of acute crises. The emotional safety could act as a guard and help the members bounce back better from the difficult times. The calmness of the pets also acts as contagion, giving much power and strength to the owners. The relationship between BRS reappraisal is stronger for the pet owners ($r = .41$) compared to the non-pet owners ($r = .22$), implying that for these families, resiliency and reappraisal may be functionally related constructs. The qualitative data shed further light on these results. The theme of routine and structure as a scaffolding effect on resiliency (Subtheme 2b) offers a micro-process explanation that extends the definition of resiliency as a positive adaptation in the face of adversity. The experience of caring for a pet seemed to provide a sense of purpose that is emotionally rewarding, that must be done on a daily basis, and that allows for a sense of mastery—all factors that are known to contribute to resiliency.

H5: Secure attachment style will be more in pet-owning family members compared to non-pet-owning family members. The ECR-R results showed that pet-owning fami-

ly members had a higher rate of secure attachment (62.4%) compared to non-pet-owning families (48.2%). Conversely, anxious attachment was found to be higher among non-pet-owning families (27.1%) than pet-owning families (16.5%). Among pet owning families, those who had secure attachment had the highest benefits for all four aspects. Conversely, those who had an avoidant attachment had lower benefits for all aspects, especially for empathy. The qualitative results also showed that while securely attached pet owners viewed their pet as an additional source of social support, those who had an anxious attachment sometimes saw an over-reliance relationship with their pet. One of the respondents reported, "Pehle log nahi samjhte the. Ab toh main sirf usse hi baat karta hoon." The results indicate that the percentage of securely attached people is greater for the pet owners compared to the non-pet owners. Securely attached people were more likely to be involved with their pets forming a bidirectional effect: people with a secure attachment style may be more likely to form a committed relationship with a pet. At the same time, the relationship with a pet may contribute to the development of a secure attachment style [34]. The qualitative results revealed that the risk of anxious over-reliance on the relationship with the pet is a potential drawback (Rohit's case), with an anxious attachment style may replace human relationships with a relationship with a pet.

Human-Animal Bond The qualitative analysis of pet owning famiies on exploring human animal bond and pets acting as major scaffolds enriched the findings. Members of the pet-owning group uniformly spoke of their pets as active participants, not passive members, of family emotional life. The bond between human and animal was found to exist along three related dimensions: emotional attunement, unconditional positive regard, and bodily comfort. The participants' descriptions of the animal bond were similar to descriptions of human attachment bonds, with a special emphasis on the unconditionally non-demanding nature of the animal bond. Pet as Emotional Anchor emerged as n imperative theme. Nonverbal attunement and unconditional positive regard depicted by the pet were important subthemes. Animals were seen as having a special awareness of the participants' emotional states, responding to distress before the participants were able to articulate their feelings. “Jab main bahut stressed hoti hoon, woh bina kuch kahe mere paas aa ke baithh jaata

hai. Jaise usse pata ho." Contrasting with human relationships, which are often conditional, the participants saw their pets as unconditionally positive, without requiring any emotional display from them. For instance "Usse nahi pata main kitna kamata hoon, kaisa dikhta hoon. Woh bas mujhe chahta hai." The emotional safety provided by the pets was considered as an important catalyst of human animal bond.

The second theme that emerged from the thematic analysis was finding Pet as Regulatory Resource. Distraction and redirection of attention and Routine and Structure as Resilience Scaffolding were two sub themes that emerged. The participants reported how the interaction with the pets broke the cycle of rumination, directing their minds to the present, a mechanism similar to mindfulness-based regulation of attention.

One of the participants reported "Office ke baad agar bahut gussa hota hai, toh use khilaata hoon. Woh sab bhulaata hai." The responsibility of caring for a pet, such as feeding, walking, grooming, etc., provided a sense of daily routine that helped participants stay positive during difficult times. "Uski wajah se subah uthna padta hai. Kabhi kabhi yahi ek kaam hota hai jo mujhe bed se uthata hai." Where it seemed to be a atsk at times but in ways it seemed to add meaning and routine to the life of participants also.

Third dominant theme that emerged from the data was Pet as Social Bridge with Facilitation of Family Cohesion and Development of Empathy through Caregiving as two subthemes. There were instances where the participants talked about how the pet helped create a sense of unity within the family. For instance, one of the spitz owners reported that "*Ghar mein agar koi tension ho, toh woh aata hai aur hum dono uske saath khel ne lagte hain... aur jo bhi tha woh thoda theek ho jaata hai."* There were instances where the participants talked about how the experience of caring for a pet helped them become more empathetic human beings, like Beagle owner reported "Bete ko pehle samajh nahi aata tha ki doosron ko kya lag raha hai. Tommy ke baad woh poochhta hai — 'Mumma, Tommy dard mein hai kya?'"

Collectively, the quantitative and qualitative results suggest a consistent and coherent picture: companion animals serve as dynamic emotional scaffolding in the family system, consistently enhancing cognitive reappraisal, empathy, and hardness,

while their effect on global perceived stress is ephemeral. The correlation matrices indicate that these benefits are not isolated: in pet-owning families, all regulative capacities cohere in a network of mutual support, a phenomenon not found in non pet-owning families. The qualitative results shed light on the processes underlying the quantitative findings: daily non-verbal attunement in reappraisal, caretaking in hardness, and unconditional acceptance in the low emotional price of self-disclosure. Attachment style is the critical moderator: secure pet owners reap the full benefits of these relational resources, while anxious pet owners risk substitution for supplementation. The pet relationship is not a panacea or a trivial lifestyle choice; it is a psychologically active and attachment-mediated relationship that deserves clinical and scientific attention.

10. Discussion Scope and Limitation

10.1. Scope

The study adds to the emerging discipline of anthrozoology by conducting a culturally contextualized, multi-construct, mixed-methods study of the psychological correlates of pet ownership in urban India. The bilingual qualitative study adds to the methodological inclusivity of the study while maintaining cultural authenticity.

10.2. Limitations

The study is subject to certain limitations. The cross-sectional study design does not enable causal inference. Longitudinal study designs are needed to ascertain causality. The study is also subject to sampling biases. The study relied on social networks to recruit participants. The study is also subject to self-selection confounds. Participants who have an existing capacity for reappraisal, empathy, or resilience may be more prone to pet ownership. The study was based entirely on North Indian samples. The study does not enable generalizability to rural or Southern Indian populations. The qualitative study had a small sample size (N = 10). The study was based entirely on Hindus. Diversification of religious groups is needed for future studies. Species differences were not examined. Previous studies have found that dog ownership is associated with stronger benefits compared to cat or small animal ownership. The study had an insufficient sample size to enable species differences to be examined.

11. Conclusion

This research contributes to the body of knowledge with both quantitative and qualitative results supporting the relationship between companion animal ownership and better emotional regulation (cognitive reappraisal), higher empathy, and more resilience for urban Indian families. Although perceived stress was not significant, its small effect was in the expected direction, highlighting the distinction between episodic stress buffering and chronic stress reduction. The human-animal bond is facilitated through a variety of qualitative factors, including non-verbal attunement, unconditional acceptance, regulatory redirection, caretaking-induced routine, and family cohesion, which together create a rich ecosystem for human well-being. The attachment style was found to be a relevant factor, with secure attachment style enhancing the benefits of companion animal ownership, whereas anxious attachment style increases the risk of over-reliance on the human-animal bond. This research has implications for family therapists, mental health professionals, and policymakers concerned with the inclusion of animal-assisted interventions as part of the mental health care system in India.

References

[1] Beck, A. M., & Katcher, A. H. (1996). *Between pets and people: The importance of animal companionship (Rev. ed.)*. Purdue University Press

[2] Bowlby, J. (1969). *Attachment and loss: Vol. 1*. Attachment. Basic Books.

[3] Kurdek, L. A. (2008). Pet dogs as attachment figures. *Journal of Social and Personal Relationships, 25(2),* 247–266.

[4] Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). An attachment perspective on human-pet relationships: Conceptualization and assessment of pet attachment orientations. *Journal of Research in Personality, 45(4)*, 345–357.

[5] Nagasawa, M., Mitsui, S., En, S., Ohtani, N., Ohta, M., Sakuma, Y., Onaka, T., Mogi, K., & Kikusui, T. (2015). Oxytocin-gaze positive feedback loop and the coevolution of human-dog bonds. *Science, 348(6232),* 333–336.

[6] Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98(2),* 310–357.

[7] Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2(3),* 271–299.

[8] Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

[9] Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44(1),* 113–126.

[10] Daly, B., & Morton, L. L. (2006). An investigation of human–animal interactions and empathy as related to pet preference, ownership, attachment, and attitudes in children. *Anthrozoös, 19(2),* 113–127.

[11] Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.

[12] Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71(3),* 543–562.

[13] Beetz, A., Uvnäs-Moberg, K., Julius, H., & Kotrschal, K. (2012). Psychosocial and psychophysiological effects of human-animal interactions: The possible role of oxytocin. *Frontiers in Psychology, 3,* 234.

[14] Triandis, H. C. (1995). *Individualism and collectivism*. Westview Press.

[15] Friedmann, E., & Thomas, S. A. (1995). Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Trial (CAST). *The American Journal of Cardiology, 76(17),* 1213–1217.

[16] Allen, K., Shykoff, B. E., & Izzo, J. L. (2002). Pet ownership, but not ACE inhibitor therapy, blunts home blood pressure responses to mental stress. *Hypertension, 38(4),* 815–820.

[17] Euromonitor International. (2022*). Pet care in India: Market trends and future outlook.* Euromonitor International.

[18] Friedmann, E., Katcher, A. H., Lynch, J. J., & Thomas, S. A. (1980). Animal companions and one-year survival of patients after discharge from a coronary care unit. *Public Health Reports, 95(4),* 307–312.

[19] McNicholas, J., & Collis, G. M. (2001). Animals as social supports: Insights for understanding animal-assisted therapy. In A. Fine (Ed*.), Handbook on animal-assisted therapy (pp. 49–71).* Academic Press.

[20] Beetz, A., Uvnäs-Moberg, K., Julius, H., & Kotrschal, K. (2012). Psychosocial and psychophysiological effects of human-animal interactions: The possible role of oxytocin. *Frontiers in Psychology, 3,* 234 (pg 3).

[21] Marsa-Sambola, F., Williams, J., Stafford, K., & Carr, S. (2016). The LAPS–Adolescents short questionnaire (LAPS–ASQ): Exploring the meaning of companion-animal ownership among teenagers in Great Britain and Spain. *Human-Animal Interaction Bulletin, 4(1),* 1–23.

[22] Bryant, B. K. (1990). The richness of the child-pet relationship: A consideration of both benefits and costs of pets to children. *Anthrozoös, 3(4),* 253–261.

[23] Strand, E. B. (2004). Interparental conflict and youth maladjustment: The buffering effects of sibling relationships. *Journal of Marital and Family Therapy, 30(3),* 367–380.

[24] Odendaal, J. S. J. (2000). Animal-assisted therapy — magic or medicine? *Journal of Psychosomatic Research, 49(4),* 275–280.

[25] Singh, A., & Srivastava, S. (2019). Pet ownership and loneliness among urban Indian adults: A cross-sectional study. *Journal of Indian Psychology, 37(2)*, 89–97.

[26] Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research (3rd ed.)*. SAGE.

[27] Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85(2),* 348–362.

[28] Spreng, R. N., McKinnon, M. C., Mar, R. A., & Levine, B. (2009). The Toronto Empathy Questionnaire: Scale development and initial validation of a factor-analytic solution to multiple empathy measures. *Journal of Personality Assessment, 91(1),* 62–71.

[29] Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24(4),* 385–396.

[30] Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15(3),* 194–200.

[31] Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78(2),* 350–365.

[32] Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). An attachment perspective on human-pet relationships: Conceptualization and assessment of pet attachment orientations. *Journal of Research in Personality, 45(4)*, 345–357 (pg 10).

[33] Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44(1),* 113–126 pg 10.

[34] Ainsworth, M. D. S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Erlbaum.