Association Between Pets and Mental Health in University Students with Borderline Personality Disorder Symptoms

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Keywords: Borderline Personality Disorder; pets; mental health; university students

Article

Association Between Pets and Mental Health in University Students with Borderline Personality Disorder Symptoms

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Abstract: Approximately 9.7% of university students exhibit symptoms of borderline personality disorder (BPD), characterized by poor self-identity, low self-esteem, and emotional dysregulation. Caring for a pet may enhance self-esteem and provide a sense of purpose, potentially benefiting those with BPD. This study aimed to explore the relationship between pet ownership and mental health in 346 university students with BPD symptoms. Participants were divided into pet owners and non-pet owners, and self-report questionnaires assessed their mental health. Results showed no significant differences in negative mental health outcomes between the two groups. However, pet owners demonstrated higher levels of inner strength, including wisdom ($p = 0.034$) and precepts ($p = 0.011$). Notably, dog owners reported lower anxiety ($p = 0.008$), depression ($p = 0.036$), and somatization ($p = 0.011$), while scoring higher in self-esteem ($p = 0.025$) and various measures of mental well-being. These findings suggest that pet ownership, especially of dogs, may positively impact mental health among university students with BPD symptoms. Future research should explore intervention-based approaches to validate these results.

Keywords: borderline personality disorder; pets; mental health; university students

1. Introduction

Borderline Personality Disorder (BPD) is a complex psychiatric condition characterized by emotional instability, impulsivity, an unstable self-image, and chronic feelings of emptiness, all of which contribute to low self-esteem [1]. In university student populations, the reported prevalence of BPD varies widely, ranging from 0.5% to 32.1%, with an estimated lifetime prevalence of 9.7% [2]. In Thai university students, the prevalence has been identified at 6.4%, as measured by the Screening instrument for borderline personality disorder (SI-Bord) with a cut-off score of 9 or higher [3].

BPD is closely associated with other mental health conditions. In a large-scale study of 34,481 U.S. adults, individuals with BPD were found to have significantly higher lifetime rates of mood disorders (83%), anxiety disorders (85%), substance use disorders (78%), post-traumatic stress disorder (PTSD) (30%), and other personality disorders (53%) [4]. The university student age group, typically between 18 to 29 years, is a period of "emerging adulthood," marked by substantial instability in relationships, work, and living situations, all of which heighten the risk of mental health disorders [5]. Suicidal behavior is especially prevalent among individuals with BPD, with over 75% attempting suicide, and about 10% ultimately dying by suicide [6]. Notably, BPD has been shown to have a greater impact on suicidal ideation than depressive symptoms alone, particularly in those who exhibit self-injurious behaviors and chronic feelings of emptiness [7-8].

Attachment theory offers a valuable framework for understanding the interpersonal difficulties faced by individuals with borderline personality disorder (BPD) [9]. Both insecure attachment and BPD contribute to dysfunctional emotional and relational processes, though they manifest at different stages of social interactions. Insecure attachment is linked to heightened negative perceptions of others and difficulties with emotional regulation, whereas BPD is more strongly associated with overt

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hostility during interpersonal interactions. As a result, individuals with BPD often have smaller and less diverse social networks, along with lower social functioning, particularly in areas such as interpersonal communication and prosocial behavior [10-11]. These impairments, along with an unstable sense of self, contribute to heightened feelings of loneliness, which are reported at significantly higher levels in people with BPD compared to healthy individuals. Consequently, individuals with BPD frequently exhibit clinginess and dependency in close relationships, constantly seeking support from others to avoid feelings of loneliness [12-14].

Secure attachments are often nurtured through positive family relationships, safe environments, and supportive connections with peers and adult role models. These attachments provide a sense of security and trust, forming the basis for healthy emotional regulation and interpersonal relationships [52]. Interestingly, the search for pet and secure attachments may also extend beyond human relationships to include bonds with pets.

Research has shown that pets can serve as a valuable source of social support, particularly for individuals with attachment difficulties. For example, animals living in foster homes have been found to play a crucial role in helping children form secure attachments [15]. In older adults, pet ownership has been associated with reduced loneliness, increased social interaction, and a greater sense of purpose, all of which contribute to improved resilience against mental health disorders [16]. A study conducted in the UK revealed that young adults perceive pet ownership, specifically of dogs and cats, as beneficial in managing symptoms of anxiety and depression [17]. Furthermore, approximately 40% of pet owners report receiving social support through connections made because of their pets [18]. Higher levels of perceived social support have been shown to reduce suicidal ideation and enhance self-esteem, particularly among dog owners [19].

In addition to alleviating psychological stress, research suggests that pets also provide physiological benefits. Pet therapy has been shown to cause significant changes in physiological markers, such as heart rate [20]. For individuals with BPD, pets may serve an even more substantial role. Studies indicate that pets provide opportunities for social engagement, participation in meaningful activities, and developing coping strategies. Additionally, they may support the formation of secure attachments, which is particularly important for individuals who struggle with interpersonal relationships [21].

Despite the potential benefits of pet ownership, limited research focuses on its impact on individuals with BPD, particularly among emerging adults of university populations. This study aimed to explore the relationship between pet ownership and mental health in university students with borderline personality disorder symptoms. Specifically, it compared both positive mental health outcomes—such as inner strength, social support, and self-esteem—and negative mental health outcomes—such as anxiety, depression, somatization, interpersonal difficulties, and perceived stress—between students with and without pets.

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2. Materials and Methods

2.1. Study Design

This study was conducted as a cross-sectional design to examine the relationship between pet ownership and mental health outcomes among university students exhibiting symptoms of BPD. Participants were recruited from universities across Thailand and screened using the SI-Bord, a tool designed to identify BPD symptoms.

2.2. Eligibility Criteria

The study included university students in Thailand, aged between 20 and 30 years, who were enrolled in undergraduate, master's, doctoral, or diploma programs. Participants were required to be fluent in Thai to ensure comprehension of the study materials. For the pet ownership group, participants needed to currently own at least one pet and have scored greater than seven on the SI-Bord scale, which assessed BPD symptoms. The inclusion criteria for the non-pet group were the same, except that participants did not own pets.

Exclusion criteria for both groups included a diagnosis of psychiatric disorders involving psychotic symptoms, bipolar disorder, or substance use disorder. Participants were also excluded if they had a history of substance use within the 24 hours prior to the study. Additionally, those who cared for pets owned by others but were not the primary pet owners were deemed ineligible to participate.

2.3. Data Collection Procedures

Participants were recruited via online and physical advertisements distributed across university campuses and psychiatric clinics. Interested individuals were first screened online using the SI-Bord tool, and eligible participants were invited to complete a comprehensive survey (Figure 1). Participants were allowed to complete the survey online or via paper forms, and all responses were anonymized. Informed consent was obtained from all participants, with ethical approval from the Faculty of Medicine, Chiang Mai University.

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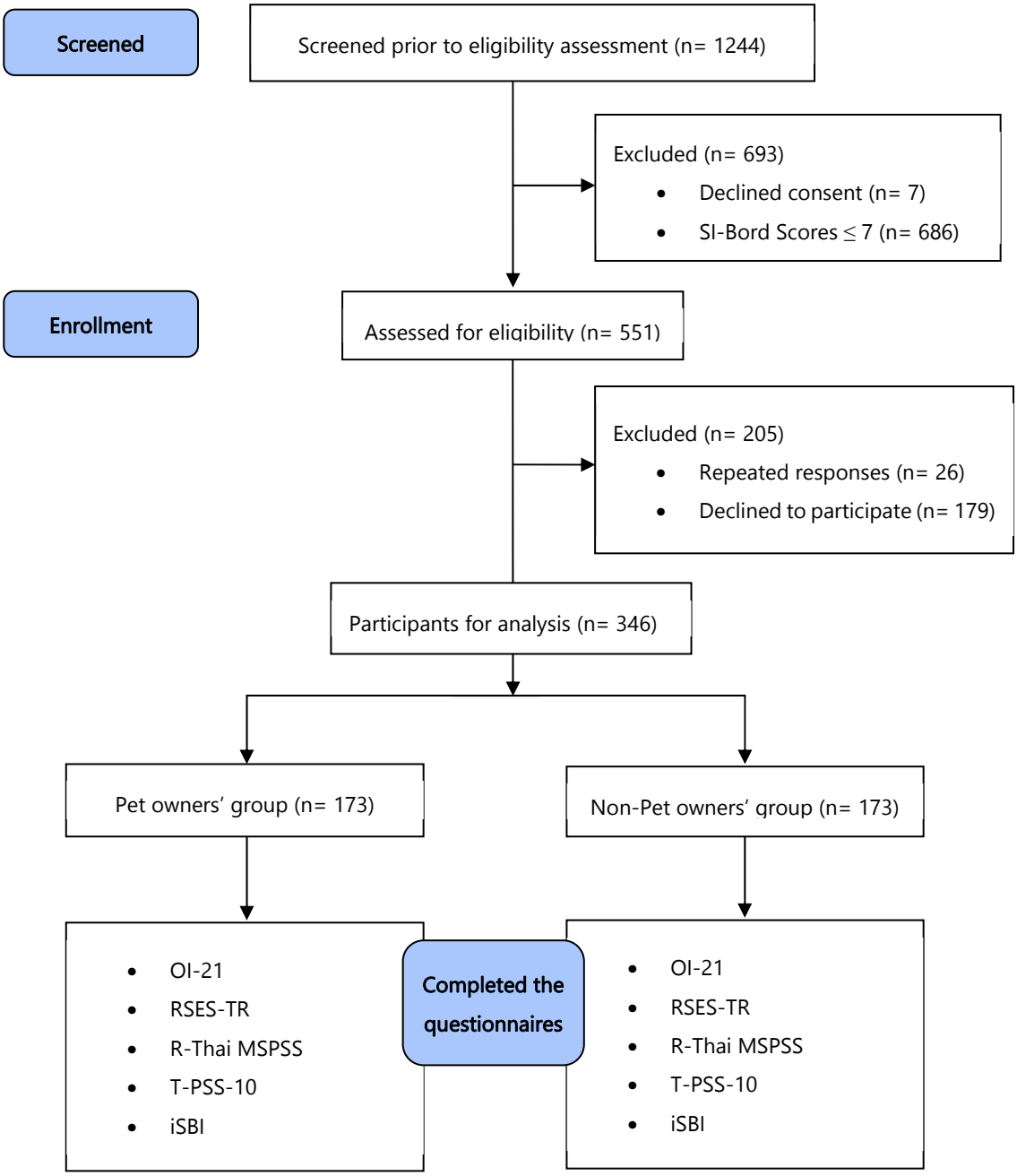

Figure 1. Overall study design flowchart.

2.4. Measurement Tools

This study uses several validated instruments, including the SI-Bord, Outcome Inventory-21 (OI-21), Rosenberg Self-Esteem Scale-Thai Revised (RSES-TR), Revised Thai version of the Multidimensional Scale of Perceived Social Support (R-Thai MSPSS), the Thai version of the 10-item Perceived Stress Scale (T-PSS-10), and the Inner Strength-Based Inventory (iSBI).

2.4.1. SI-Bord

The SI-Bord is a 5-item scale based on DSM-5 criteria for BPD, scored on a 4-point Likert scale (0 = never, 3 = often). It measures borderline personality disorder symptoms such as abandonment avoidance, unstable relationships, identity disturbance, suicidal behavior, and emotional instability. The scores range from 0 to 15. The higher score indicates a higher level of borderline personality symptoms. A cut-off score of >7 is used to identify significant BPD symptoms. The SI-Bord has a sensitivity of 75.00% and a specificity of 73.08%.

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2.4.2. Outcome Inventory-21 (OI-21)

The OI-21 measures anxiety, depression, somatization, and interpersonal difficulties across 21 items. This 21-item inventory utilizes a Likert scale ranging from 0 (never) to 4 (almost always), with total scores ranging from 0 to 48. Higher scores indicate greater severity of symptoms. Its depression subscale has a sensitivity of 82.72% and a specificity of 78.35%. Cronbach's alpha for the entire scale is 0.92, and subscale alphas range from 0.80 to 0.87 [22]. In this study, Cronbach's alpha for the scale was 0.93.

2.4.3. Rosenberg Self-Esteem Scale-Thai Revised (RSES-TR)

The RSES-TR is a tool to assess self-esteem. The questionnaire consists of 10 items rated on a 4-point scale, ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Total scores range from 10 to 40, with higher scores indicating higher self-esteem. Cronbach's alpha is 0.86 [23]. In this study, Cronbach's alpha for the scale was 0.86.

2.4.4. Revised Thai version of the Multidimensional Scale of Perceived Social Support (R-Thai MSPSS)

The R-Thai MSPSS evaluates perceived social support through 12 items, scored from 1 (strongly disagree) to 7 (strongly agree). Total points range between 12 and 84 points. Higher scores reflect stronger social support, and Cronbach's alpha is 0.91 [24]. In this study, Cronbach's alpha for the scale was 0.94.

2.4.5. Thai version of the 10-item Perceived Stress Scale (T-PSS-10)

The T-PSS-10 measures perceived stress through 10 items scored from 0 (never) to 4 (very often). The total score ranges from 0 to 40. Higher scores indicate greater perceived stress, with a Cronbach's alpha of 0.85 [25]. In this study, Cronbach's alpha for the scale was 0.78.

2.4.6. Inner Strength-Based Inventory (iSBI)

The iSBI assesses inner strength through 10 items measuring attributes such as truthfulness, perseverance, wisdom, generosity, precept, meditation, tolerance, equanimity, determination, and loving-kindness. Each item is rated on a 5-point scale, with scores ranging from 10 to 50. Higher scores indicate higher levels of inner strength. Cronbach's alpha for the iSBI is 0.86 [26]. This study did not calculate Cronbach's alpha as each was treated as an independent variable.

2.5. Ethical Considerations

The study was approved by the Ethics Committee of the Faculty of Medicine at Chiang Mai University (Ethics Approval No. PSY-2566-0502; date of approval: 12 March 2024). Informed consent was obtained from all participants, and confidentiality was maintained throughout the study. All personal information was de-identified and securely stored in accordance with data protection regulations.

2.6. Statistical Analysis

Descriptive statistics were used to describe demographic characteristics and psychological outcomes, including means, standard deviations, and frequencies. Independent t-tests were conducted to compare continuous variables, such as anxiety, depression, self-esteem, and somatization, between pet owners and non-pet owners. The chi-square test was used for categorical variables. Pearson or Spearman correlation coefficients were calculated to explore the relationship between pet ownership and mental health outcomes. Multiple linear regression analyses were performed to control for potential confounders such as age, gender, academic year, and mental health treatment status. A p-value of less than 0.05 was considered statistically significant.

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3. Results

Table 1 shows that the study included a total of 346 participants, most were female. Among pet owners, most were female as well. However, there was no statistically significant difference in gender distribution between pet owners and non-pet owners. The mean age of all participants was 21.6 years (SD=2.24), and there was no significant difference between the groups. Among pet owners, most of the participants were 2nd year-student (47%). Most participants were single (98.0%). Pet owners were further categorized based on the number of pets, most of which had one pet.

Cats and dogs were the most common pets. The "Human-Human" interaction style was predominant among pet owners. (Table 2)

Table 1. Sociodemographic.

Variables	All (n=346)	Pet (n=173)	No Pet (n=173)	Test Difference
Sex				
Male	88 (25.4%)	38 (11.0%)	50 (14.5%)	$X^2(1)=2.20$, p=0.139
Female	258 (74.6%)	135 (39.0%)	123 (35.5%)	
Age	21.6±2.24	21.74±2.34	21.47±2.13	t (344)=1.13, p=0.259, (95%CI -0.20, 0.74)
Year of Study				
1 year	33 (9.5%)	16 (4.6%)	17 (4.9%)	
2 years	85 (24.6%)	47 (13.6%)	38 (11.0%)	X^2 (4)=2.79, p=0.594
3 years	95 (27.5%)	43 (12.4%)	52 (15.0%)	
4 years	75 (21.7%)	35(10.1%)	40 (11.6%)	
More than 4 years	58 (16.8%)	32 (9.2%)	26 (7.5%)	
Marital status				
Single	339 (98.0%)	172 (49.7%)	167 (48.3%)	
Married	6 (1.7%)	1 (0.3%)	5 (1.4%)	X^2 (2)=3.74, p=0.154
Divorced				
Widowed	1 (0.3%)	0 (0.0%)	1 (0.3%)	
The number of pets				
1	78 (22.6%)	78 (45.1%)	0	t (172)=28.16, p=<0.001, (95%CI 1.747, 2.010)
2	38 (11%)	38 (22%)	0	
More than 2	57 (16.4%)	57 (32.9%)	0	

Table 2. Characteristics of the Pet group.

	n	%
The number of pets		
1	78	45.1
2	38	22.0
More than 2	57	32.9
The type of pet		
Dog	76	43.9
Cat	111	64.2
Bird	4	2.3
Fish	14	8.1
Rabbit	5	2.9
Rodent	9	5.2
Reptile	3	1.7
Other		
Cow	1	0.6
praying mantis	1	0.6

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turtles	1	0.6
spiders	1	0.6
chickens	1	0.6
Human-pet interaction style		
Human - Animal	30	17.3
Human - Human	143	82.7

Negative mental health outcomes comparing pet and non-pet groups are presented in Table 3. The average anxiety, depression, somatization, and overall OI-21 score were slightly lower for pet owners; however, these differences were not significant. Furthermore, both groups had identical average scores on the Perceived Stress Scale (PSS).

In positive mental health outcomes (Table 4), pet owners had a higher self-esteem and total perceived social support score, but the difference was insignificant. However, for iSBI, pet owners scored significantly higher on the "Wisdom" and "Precept" compared to non-pet owners.

Table 3 Negative mental health variables comparing between pet and no pet groups

Outcome	Pet (n = 173)	No pet (n = 173)	Test Difference				
			t	df	p-value	95% Confidence Interval	
						Lower	Upper
OI-21							
Anxiety	13.84±4.77	14.54±4.86	-1.35	336.00	0.177	-1.73	0.32
Depression	8.42±4.35	8.86±3.87	-1.00	341.00	0.319	-1.32	0.43
Interpersonal difficulty	8.74±3.34	8.43±3.36	0.86	343.00	0.390	-0.40	1.02
Somatization	9.8±5.15	10.3±4.56	-0.94	338.00	0.349	-1.53	0.54
Total	40.76±15.13	42.24±13.92	-0.92	326.00	0.357	-4.64	1.68
PSS	22.54±6.61	22.54±5.24	0.02	335.00	0.988	-1.27	1.29

OI-21 = Outcome Inventory-21, PSS = Perceived Stress Scale

Table 4. Positive mental health variables comparing between pet and no pet groups

Outcome	Pet (n = 173)	No pet (n = 173)	Test Difference				
			t	df	p-value	95% Confidence Interval	
						Lower	Upper
RSES	26.14±5.25	25.61±5.01	0.96	342.00	0.338	-0.56	1.62
MSPSS							
Significant Other	18.60±7.00	17.88±6.88	0.97	341.00	0.334	-0.75	2.20
Friends	18.25±6.27	18.40±6.33	-0.22	340.00	0.824	-1.49	1.19
Family	17.88±6.62	17.43±6.72	0.62	343.00	0.537	-0.97	1.86
Total	54.67±16.70	53.68±17.35	0.54	336.00	0.591	-2.65	4.64
iSBI variables							
Truthful	3.21±1.26	3.18±1.28	0.25	343.00	0.806	-0.24	0.30
Perseverance	2.49±1.06	2.33±0.10	1.42	342.00	0.156	-0.06	0.38
Wisdom	3.09±1.20	2.81±1.18	2.13	343.00	0.034	0.02	0.52

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Generosity	3.59±1.21	3.37±1.32	1.60	340.27	0.111	-0.05	0.49
Precept	2.99±1.27	2.65±1.16	2.55	342.00	0.011	0.08	0.59
Meditation	1.53±0.87	1.44±0.70	1.03	342.00	0.303	-0.08	0.25
Tolerance	3.23±1.15	3.10±1.11	1.04	343.00	0.299	-0.11	0.37
Equanimity	3.01±1.06	2.88±0.97	1.17	343.00	0.243	-0.09	0.34
Determination	3.12±1.10	2.91±1.13	1.74	341.00	0.082	-0.03	0.45
Loving-Kindness	3.26±1.23	3.20±1.24	0.47	343.00	0.638	-0.20	0.32

RSES = Rosenberg Self-Esteem Scale, MSPSS = Multidimensional Scale of Perceived Social Support, iSBI = Inner Strength-Based Inventory.

Table 5 compares psychological variables between dog and non-dog owners, revealing several significant differences in mental health outcomes. Dog owners reported significantly lower anxiety, depression, and somatization levels than non-dog owners. Regarding RSES, dog owners had significantly higher self-esteem than non-dog owners. No significant differences were observed between dog owners and non-dog owners in perceived social support from significant others, friends, or family ($t(336) = 0.79$, $p > 0.05$ for all subscales). Dog ownership was also associated with higher inner strength and scored significantly higher in wisdom, engagement in meditation, and loving-kindness.

There are no statistically significant differences in outcomes between cats and non-cat owners regarding negative and positive mental health outcomes.

Table 5. Positive and negative mental health variables comparing between dog and no dog groups.

Outcome	Dog (n= 76)	No dog (n= 270)	Test Difference				
			t	df	p-value	95% Confidence Interval	
						Lower	Upper
OI-21							
Anxiety	12.88±4.82	14.55±4.75	-2.67	336.00	0.008	-2.91	-0.44
Depression	7.76±3.96	8.89±4.14	-2.11	341.00	0.036	-2.18	-0.08
Interpersonal difficulty	7.93±3.30	8.77±3.34	-1.94	343.00	0.054	-1.69	0.01
Somatization	8.79±4.67	10.40±4.87	-2.56	338.00	0.011	-2.86	-0.38
Total	37.29±14.61	42.68±14.32	-2.81	326.00	0.005	-9.16	-1.61
PSS	21.24±7.51	22.90±5.39	-1.78	95.10	0.079	-3.52	0.19
RSES	27.04±4.49	25.55±5.26	2.25	342.00	0.025	0.19	2.80
MSPSS							
Significant Other	19.05±6.97	18.01±6.93	1.15	341.00	0.251	-0.74	-0.74
Friends	18.04±6.67	18.40±6.19	-0.44	340.00	0.662	-1.98	1.26
Family	18.32±6.55	17.47±6.70	0.98	343.00	0.328	-0.86	2.55
Total	55.55±17.37	53.78±16.93	0.79	336.00	0.430	-2.63	6.17
iSBI variables							

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Truthful	3.30±1.35	3.17±1.25	0.82	343.00	0.412	-0.19	0.46
Perseverance	2.59±1.05	2.35±1.02	1.78	342.00	0.076	-0.03	0.50
Wisdom	15.76 ± 3.19	14.01 ± 3.26	4.14	339.00	<0.001	0.92	2.58
Generosity	3.70±1.17	3.42±1.29	1.79	131.34	0.076	-0.03	0.58
Five Precepts	3.26±1.23	2.70±1.20	3.62	342.00	<0.001	0.26	0.87
Meditation	1.67±.84	1.44±.76	2.31	342.00	0.021	0.04	0.43
Tolerance	3.36±1.14	3.12±1.13	1.64	343.00	0.102	-0.05	0.53
Equanimity	3.11±.97	2.90±1.03	1.53	343.00	0.126	-0.06	0.46
Determination	3.29±1.02	2.94±1.14	2.42	341.00	0.016	0.07	0.63
Loving-Kindness	3.51±1.06	3.15±1.26	2.52	140.40	0.013	0.08	0.65

OI-21 = Outcome Inventory-21, PSS = Perceived Stress Scale, RSES = Rosenberg Self-Esteem Scale, MSPSS = Multidimensional Scale of Perceived Social Support, iSBI = Inner Strength-Based Inventory.

4. Discussion

This study investigated the relationship between pet ownership and mental health outcomes in university students with symptoms of borderline personality disorder. The key finding from the analysis was that, overall, pet ownership did not yield a significant correlation with adverse mental health outcomes. In contrast, some positive mental health outcomes, such as precept and wisdom, had substantial relationships with the pet owners' group.

The types of pets may have different effects on the owners, and dogs were the most common pets in this sample. We further explored the difference in the outcomes among dog and non-dog owners. The results have confirmed that petting dogs have a significant effect on the owners' mental health compared to other pets and non-pet owners. Those who petted dogs demonstrated decreased association with mental health problems; on the other hand, increased association with positive psychology, especially the inner strengths of Wisdom and Five Precepts. Consistent with other related studies, dog owners reported lower depression scores compared to other groups, supporting previous findings that dog ownership may offer mental health benefits. This benefit is often attributed to the regular responsibilities associated with dog care, such as feeding and walking, which foster a life of purpose. This structure not only promotes physical activity, which is closely linked with mood enhancement but also provides a sense of responsibility that can help individuals maintain routine and engagement, even during depressive episodes. In this way, the responsibilities tied to dog care may combat feelings of lack of motivation [17,27-28].

Individuals with BPD often struggle with insecure attachment rooted in early relational traumas or inconsistent caregiving [17,47]. These challenges manifest as difficulty trusting others, heightened fear of abandonment, and emotional dysregulation. As highlighted in this study, petting dogs may be uniquely therapeutic in mitigating these attachment-related struggles. Attachment theory posits that pets, particularly dogs, can act as a "secure base" due to their non-judgmental and consistently affectionate nature [14, 17, 20]. Dogs' heightened responsiveness to human emotional needs provides a safe and predictable relationship for individuals with BPD [42,45,49], which can be invaluable for building trust and reducing fear of abandonment. Unlike human relationships, which may feel fraught with unpredictability, the unconditional acceptance offered by dogs can alleviate relational anxieties and foster emotional security [35]. Moreover, physical interactions with dogs, such as petting or grooming, have been shown to activate the parasympathetic nervous system, promoting relaxation and emotional calmness [29,38,49-50]. For individuals with BPD, who often experience intense emotional swings, these calming effects can help regulate overwhelming feelings of anger, sadness, or anxiety [14,17,30,37]. The bond between dog and owner can serve as a model for positive relationships, helping individuals with BPD develop interpersonal skills [17,47,51]. Dogs require attention, care, and consistent interaction, encouraging owners to engage in nurturing behaviors, which may transfer to human relationships. The structure provided by dog care fosters a sense of

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predictability and routine, which is critical for individuals with insecure attachments. This routine encourages responsibility and counters feelings of chaos often associated with BPD [17,47,49]. In addition, dogs act as social catalysts, encouraging owners to interact with others in dog-friendly environments and enhancing social confidence and perceived social support [18]. Finally, interacting with dogs encourages mindfulness, a skill that can reduce impulsive reactions and foster emotional stability. Dog ownership may elicit feelings of empathy and nurturance, which extend to self-compassion, reducing self-criticism and fostering self-acceptance [17,46,48].

In contrast, cat ownership was not associated with lower depression levels, while offering companionship does not encourage the same social or physical engagement as dogs. Some studies have shown that dogs' emotional closeness is greater than cats [31-33]. Similarly to the prior study, cat ownership was not significantly associated with depressive symptoms, and there was no significant association between cat attachment and mental health outcomes like depression or anxiety [14, 34].

Regarding positive mental health outcomes, self-esteem and some inner strengths were evident among dos-owner groups, suggesting that dog ownership may offer certain psychosocial benefits, such as companionship and a sense of responsibility, which have been linked to enhanced self-esteem [39], possibly due to positive social perceptions, a sense of respect and validation from their pets [17,36,40]. In contrast, self-esteem levels among cat owners did not differ significantly from those of non-cat owners in our study, which may reflect societal perceptions or cats' generally less interactive nature [36].

It is interesting to note that the level of wisdom was significantly higher in the dog-owner groups. The design of this study limits the causal relationship. However, other related studies showed that previous studies showed adults having dogs as pets scored higher on self-empathy and were more conscientious than non-dog owners. Some data showed that petting dogs also helps promote mindfulness [17,43-46]. Regarding the five precepts, the reason is notably understandable as the five precepts promote kindness to living beings, including animals. In addition, the five precepts are related to loving-kindness. On the contrary, petting dogs elicited a sense of kindness from the owner.

Inconsistent with other related studies, our results discovered no significant difference in perceived social support between pet owners and non-owners, even in dog owners. This could contribute to the difference in the design of the study. A study revealed that pets during childhood reported higher levels of social support [41]. One possible explanation for the differing results in our study is the use of a different measure for assessing social support. Additionally, our study did not account for variations in attachment levels, academic years, or sex, all of which could influence perceived social support. Especially with dogs, prior research shows that dog owners experience greater attachment and perceived social support than owners of other pets, such as birds or reptiles, [42] because dogs are more likely than others to build social connections within their communities [31-32]. Previous studies have shown significant associations between pet attachment and perceived social support [42].

Limitations

Like other studies in this area, this investigation has limitations that must be acknowledged. First, the cross-sectional design restricts the ability to establish causation between pet ownership and mental health outcomes, as it only captures associations simultaneously. Longitudinal research is needed to explore the potential long-term effects of pet ownership on mental health. Second, this study did not assess attachment levels or the frequency of interactions with pets, which could play a significant role in mental health outcomes. Third, confounding factors, such as living arrangements, physical activity, and other social supports, were uncontrolled and may have influenced the results. Fourth, the inclusion of participants with other personality disorders complicates interpretation, as these co-occurring conditions could affect mental health outcomes differently. Finally, reliance on self-reported data introduces potential biases in how participants perceive and report their mental

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health. Addressing these limitations in future research would help clarify the role of pet ownership in supporting mental health, especially in individuals with BPD symptoms.

5. Conclusions

In summary, this study examined the effects of pet ownership on mental health outcomes in university students with symptoms of borderline personality disorder (BPD). The results indicate that while overall pet ownership does not significantly impact negative mental health outcomes, certain types of pet ownership, particularly dog ownership, may provide unique psychological benefits. Dog owners reported significantly lower levels of depression, anxiety, and somatic symptoms compared to non-dog owners. Additionally, dog owners exhibited higher self-esteem and inner strength levels, reflected in wisdom, precept, meditation, determination, and loving-kindness scores. These findings align with existing literature suggesting that the consistent physical and emotional interactions associated with dog ownership may develop attachments, emotional regulation, and coping skills, which are crucial for individuals with BPD.

Conversely, cat ownership was not significantly associated with mental health benefits, potentially due to the generally independent nature of cats and their tendency to require less social interaction. The type of pet and the degree of attachment to it may play pivotal roles, with dogs providing a more interactive and attachment bond that may be especially beneficial for individuals experiencing interpersonal challenges and emotional instability. Future studies should explore these relationships further, taking into account attachment levels and other personality variables, to clarify the nuances of pet influence on mental health.

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