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“My Pet is More-Than-Animal to Me”: Personality Profiles in the Context of Attachment to Companion Animals

“Мой питомец – больше,
чем просто животное”:
Личностные профили в контексте
привязанности к домашним животным

Абстракт

Целью настоящего исследования является изучение конфигураций личностных черт в контексте привязанности к домашним животным. В исследовании участвовало 426 поляков в возрасте от 18 до 77 лет ($M = 32,08$, $SD = 10,53$), которые заполнили онлайн-опросники Большой пятерки, Привязанности к животным и социально-демографические данные. Кластерный анализ выделил группы на основе сходства личностных черт. Первый кластер, для которого характерны общительность, открытость к новому опыту и эмоциональная стабильность, был связан с более низким уровнем привязанности к животным. Второй кластер, характеризующийся нейротизмом, непринятием новизны и социальной жизни, и третий кластер, отличающийся низкой открытостью к новому опыту, настойчивостью и потребностью в предсказуемости, показали более высокий уровень привязанности к животным. Полу-

“My Pet is More-Than-Animal to Me”:
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Abstract

The study aims to explore the configurations of personality traits in the context of attachment to companion animals. A total of 426 Polish participants (aged 18–77; $M = 32.08$, $SD = 10.53$) completed online measures of Big Five traits, Attachment to Pets, and demographic data. Cluster analysis identified personality-based groups. The first cluster is characterized by sociability, openness to new experiences, and emotional stability, showing lower pet attachment. The second cluster is characterized by neuroticism, closeness to novelty, and socializing. The third cluster is characterized by low openness to experience, persistence, and a need for predictability. Both latter clusters showed higher pet attachment. Findings indicate that personality profiles differentiate individuals regarding their attachment to nonhuman animals.

Keywords: personality, companion animals, attachment, the Big Five, profiles

ченные результаты указывают на то, что конфигурации личностных черт различают людей по уровню их привязанности к животным.

Ключевые слова: личность, домашние животные, привязанность, Большая пятерка, профили

Introduction

With the rising number of people living with companion animals in various societies,¹ there has been a growing interest in understanding the phenomenon of attachment to them and the characteristics of nonhuman animals' caregivers. People living with companion animals commonly consider them as their closest, irreplaceable beings. Researchers point out the clear difference between the interaction itself and the human–animal bond, which requires the quality of the relationship over time.² Moreover, some people identify nonhuman animals as social support³ or even family members.⁴ These changes indicate that interspecies boundaries are no longer so fixed.⁵ Anthropomorphization, attachment, and empathy shape the human view of nonhuman animals as living creatures or relationships with them.⁶ It changes the status

¹ James Andrew Serpell, "Companion Animals," in *Anthrozoology: Human-Animal Interactions in Domesticated and Wild Animals*, eds. Geoff Hosey and Vicky Melfi (Oxford: Oxford University Press, 2018), 17; Selly Volsche et al., "Cross-Cultural Variation in Human–Animal Interaction," in *Introduction to Human–Animal Interaction*, eds. Laëtitia Maréchal and Emilie Van Der Zee (London: Routledge, 2024), 79; Deborah R. Wells and Kathryn R. Treacy, "Pet Attachment and Owner Personality," *Frontiers in Psychiatry* 15 (2025): 1–10, <https://doi.org/10.3389/fpsy.2024.1406590>.

² Laëtitia Maréchal and Emile Van Der Zee, "An Introduction to Human–Animal Interaction, Book Content and Considerations," in *Introduction to Human–Animal Interaction* (London: Routledge, 2024), 4.

³ Michael Meehan, Bronwyn Massavelli, and Nancy Pachana, "Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Figures," *Anthrozoös* 30, no. 2 (2017): 273–289, <https://doi.org/10.1080/08927936.2017.1311050>.

⁴ Froma Walsh, "Human-Animal Bonds II: The Role of Pets in Family Systems and Family Therapy," *Family Process*, 48 (2009): 481–99, <https://doi.org/10.1111/j.1545-5300.2009.01297.x>; Lucyna Kopciwicz and Marcin Welenc, "COVID i zwierzęta. Zwierzęco-ludzka rodzinność i zwierzęca przestrzeń miejska w czasach pandemii," *Zoophilologica. Polish Journal of Animal Studies* 2 (2023): 18, <https://doi.org/10.31261/ZOOPHILOLOGICA.2023.12.04>.

⁵ Margo DeMello, *Animals and Society: An Introduction to Human–Animal Studies* (New York: Columbia University Press, 2021), 42–52.

⁶ Emanuela Prato-Previde, Elisa Basso Ricci, and Elisa Silvia Colombo, "The Complexity of the Human–Animal Bond: Empathy, Attachment and Anthropomorphism in Human–Animal Relationships and Animal Hoarding," *Animals* 12 (2022): 2835, <https://doi.org/10.3390/ani12202835>.

of nonhuman animals. Importantly, humanity is a phenomenon that can extend to species that coexist with humans⁷ and replace human–animal interactions from utility to those that actualize the needs of the two interacting beings.⁸ Posthumanist research strands emphasize that human life is not disconnected from nonhuman animal existence. Living side by side and with each other creates relations. Attachment plays a particular role in developing human–nonhuman animal bonds. In the context of the various motives for owning an animal, e.g., representational reasons, just having a companion animal is not enough. As with interpersonal relationships, specific conditions are needed for its emergence. Notwithstanding, the characteristics of people more attached to their nonhuman animals are not understood well enough. This study focuses on getting closer to answering the question of what makes some people more attached to companion animals than others. It also enriches the discourse with new perspectives on existing research in the area of animal caregivers’ personality characteristics, capturing personality traits into comprehensive personality profiles.

Literature Review

Attachment to nonhuman animals is a construct that can be understood by delving into the attachment theory. Bowlby⁹ conceptualized the early relationship between a child and a parent or a caregiver as a figure of attachment and its consequences. Attachment is recognized by behaviors that would indicate the phenomenon’s emergence. Both in interpersonal relationships and interspecies bonds, the conditions for the emergence of attachment can be fulfilled.¹⁰ These are (a) proximity seeking and maintenance, which involves the desire to be by the side of a loved one, especially in a difficult situation; (b) a safe haven, which refers to an attachment figure (e.g. an animal) as a supportive refuge; (c) a secure base, which presupposes the possession of a base being who gives the possibility of personal growth; (d) separation distress,

⁷ Allen R. McConnell, E. Paige Lloyd, and Brandon Humphrey, “We Are Family: Viewing Pets as Family Members Improves Wellbeing,” *Anthrozoös* 32 (2019): 459–470, <https://doi.org/10.1080/08927936.2019.1621516>.

⁸ DeMallo, *Animals and Society*, 174–203.

⁹ John Bowlby, *Attachment and Loss* (New York: Basic Books, 1969); John Bowlby, *Attachment and Loss*, vol. 2, *Separation: Anxiety and Anger* (New York: Basic Books, 1973).

¹⁰ Sigal Zilcha-Mano, Mario Mikulincer, and Phillip R. Shaver, “An Attachment Perspective on Human–Pet Relationships: Conceptualization and Assessment of Pet Attachment Orientations,” *Journal of Research in Personality* 45 (2011): 345–357, <https://doi.org/10.1016/j.jrp.2011.04.001>.

i.e. the emergence of stress in the situation of separation from the attachment figure.¹¹ It should also be added that attachment representations formed in childhood can be transferred to other relationships in the individual's life cycle.¹² That is the basis for inferring the importance of attachment in people's relationships with nonhuman animals. This type of relationship can have a positive impact on a person's life. It is noted that oxytocin may be associated with the positive effects of animal attachment on human well-being.¹³ Similarly, research reports that a higher level of attachment to companion animals is linked to reduced stress levels.¹⁴ Relationship is also one of the crucial elements of interaction in animal-assisted therapy.¹⁵ However, some literature reviews on the links between companion animal caregiving and human quality of life highlight the diversity of findings in this area.¹⁶ Existing research presents a range of outcomes, including positive, mixed, neutral, or even negative effects, particularly concerning mental health.¹⁷ The inconsistency of these findings underscores the need for further investigation, with a particular emphasis on attachment to animals and mechanisms for the emergence of emotional bonds rather than just ownership.

Importantly, not all individuals develop the same level of attachment to companion animals. It has been suggested that personality traits may influence the degree of emotional bond formed with nonhuman animals, shaping attitudes and perceptions toward them. The first research on human personality in the context of interactions with animals did not focus on attachment. This investigation was conducted

¹¹ John Bowlby, "Attachment and Loss: Retrospect and Prospect," *American Journal of Orthopsychiatry* 52 (1982): 64–78, <https://doi.org/10.1111/j.1939-0025.1982.tb01456.x>; Mary Ainsworth and John Bowlby, "An Ethological Approach to Personality Development," *American Psychologist* 46 (1991): 333–341, <https://doi.org/10.1037/0003-066x.46.4.333>; Zilcha-Mano, Mikulincer, and Shaver, "Attachment Perspective on Human–Pet Relationships: Conceptualization and Assessment of Pet Attachment Orientations," 543.

¹² John Bowlby, *Attachment and Loss*, vol. 3, *Loss: Sadness and Depression* (New York: Basic Books, 1980).

¹³ Henri Julius et al., *Attachment to Pets: An Integrative View of Human–Animal Relationships with Implications for Therapeutic Practice* (Göttingen: Hogrefe Publishing GmbH, 2012), 142–147.

¹⁴ Cynthia Sau Ting Wu, Rosa Sze Man Wong, and Wing Hin Chu, "The Association of Pet Ownership and Attachment with Perceived Stress Among Chinese Adults," *Anthrozoös* 31 (2018): 580–584, <https://doi.org/10.1080/08927936.2018.1505269>.

¹⁵ Agnieszka Bóldak and Agata Stefanowska, "Terapeutyczna rola zwierząt na przykładzie koni," *Zoophilologica. Polish Journal of Animal Studies* 2 (2024): 12, <https://doi.org/10.31261/ZOOPHILOLOGICA.2024.14.05>.

¹⁶ Kristel Scoreby et al., "Pet Ownership and Quality of Life: A Systematic Review of the Literature," *Veterinary Sciences* 8 (2021): 332, <https://doi.org/10.3390/vetsci8120332>.

¹⁷ Maria Müllersdorf, Fredrik Granström, Lotta Sahlqvist, and Per Tillgren, "Aspects of Health, Physical/Leisure Activities, Work and Socio-Demographics Associated with Pet Ownership in Sweden," *Scandinavian Journal of Public Health*, 38 (2009): 53–63, <https://doi.org/10.1177/1403494809344358>.

by Levinson¹⁸ as early as 1978. The researcher pointed out that personality development occurs throughout life and that an animal can be a source, a support, and a trigger for individual change. Several decades after Levinson's research, scientists have begun to look for links between personality and attachment to companion animals. Bagley and Gonsman¹⁹ used the four personality types identified in the KFTS questionnaire for this purpose. A distinctive strength of attachment characterizes the *Idealist* personality type, characterized by kindness, empathy, conformity to moral conduct, or acting on gut feelings. It also appears that conscientiousness is positively correlated with general attachment²⁰ and neuroticism with both – general attachment and anxiety attachment.²¹ The research also showed that individuals who are attached to their nonhuman animals tend to have higher levels of extraversion.²² Additionally, Wells and Treacy²³ found that Machiavellianism is weakly correlated with attachment to nonhuman animals. However, the authors claim that none of the Dark Triad features significantly affect the outcome of attachment to companion animals.

Building upon previous research and addressing a research gap relating to comprehensive personality profiles of animal caregivers, this study aims to deepen the understanding of why some individuals develop stronger attachments to companion animals than others.

Participants

The current survey involved 426 adult participants from Poland. The sample was recruited through social media platforms, explicitly targeting various thematic and

¹⁸ Boris Levinson, “Pets and Personality Development,” *Psychological Reports* 42, no. 3 (1978): 1031–1038, <https://doi.org/10.2466/pr0.1978.42.3c.1031>.

¹⁹ Debra K. Bagley and Virginia L. Gonsman, “Pet Attachment and Personality Type,” *Anthrozoös* 18 (2005): 34–39, <https://doi.org/10.2752/089279305785594333>.

²⁰ Gretchen Reevy and Mikel Delgado, “The Relationship between Neuroticism Facets, Conscientiousness, and Human Attachment to Pet Cats,” *Anthrozoös* 33 (2020): 392–398, <https://doi.org/10.1080/08927936.2020.1746527>.

²¹ Reevy and Delgado, “Relationship between Neuroticism Facets, Conscientiousness, and Human Attachment to Pet Cats,” 392–398; Nathália Saraiva de Albuquerque et al., “Personality Traits of Brazilian Pet Owners and Nonowners and Their Association with Attachment to Pets,” *Anthrozoös* 35 (2022): 1–11, <https://doi.org/10.1080/08927936.2022.2121046>.

²² de Albuquerque et al., “Personality Traits of Brazilian Pet Owners and Nonowners and Their Association with Attachment to Pets,” 1–11.

²³ Wells and Treacy, “Pet Attachment and Owner Personality,” 3–8.

neighbourhood groups. Among the participants, 356 identified as female, 67 as male, and two individuals identified as other. Participants ranged from 18 to 77 years, with a mean age of 32.08 ($SD = 10.53$). Notably, more than 91% of respondents reported caring for nonhuman animals when completing the survey, and 96% indicated that they had previously lived with companion animals. The data collected from these respondents served as the foundation for the statistical analyses. Additionally, over 51% of participants reported sharing the responsibility of caring for a companion animal with other household members. Conversely, 39% of respondents primarily undertook this responsibility, while over 9% delegated the care to other family members. Most participants reported living with dogs (47%) or cats (37%). Furthermore, there were responses from individuals who cared for dogs and cats (10%) and those who kept other species (6%), including, for example, hamsters, guinea pigs, and snakes.

Procedure

The present survey was conducted using a volunteer-based approach. This procedure facilitated the recruitment of a substantial number of respondents. The study utilized an online questionnaire designed for individual completion. The self-report survey remained open for one and a half months, with an estimated completion time of approximately 10 minutes. The participants were granted unlimited time to review the instructions, which provided essential information regarding the general purpose of the survey, the procedure for participation, the option to withdraw, access to raw data, the anonymity of the questionnaire, and contact details for the researcher. Informed consent was obtained from participants via a declaration presented on the second page of the survey. After reviewing the instructions, participants were asked to complete two questionnaires: (a) the Ten Item Personality Inventory and (b) the Lexington Pet Attachment Scale. A demographic questionnaire was administered after the survey.

Materials And Measures

Personality was assessed using the Ten-Item Personality Inventory,²⁴ with a Polish adaptation.²⁵ The scale has ten items measuring five personality traits: (a) Extraversion, (b) Agreeableness, (c) Conscientiousness, (d) Openness to experience, and (e) Emotional stability. Responses are rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). For the needs of the present study, reliability was calculated using Cronbach's Alpha coefficient. The reliability coefficient for (a) Extraversion was estimated at $\alpha = .74$; Agreeableness was estimated at $\alpha = .64$; Conscientiousness was estimated at $\alpha = .77$; Emotional stability was estimated at $\alpha = .75$; Openness to experience was estimated at $\alpha = .35$. The last subscale reliability value is low. However, it should be remembered that it consists of only two continually oppositional items.²⁶ Despite the limited reliability of the subscale, the tool has been widely adopted and used in quantitative research as an indicative measure of personality.²⁷

Attachment to companion animals was measured using the Lexington Attachment to Pets Scale²⁸ in Polish adaptation.²⁹ The questionnaire contains 23 items with three subscales: (a) General attachment, (b) Human substitution, and (c) Animal rights. Responses are rated on a 4-point scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*), referring to the animal they lived with the longest. Notably, the Lexington Attachment to Pets Scale also considers elements representative of low animal attachment. This two-sided scale structure makes it possible to capture individual differences in attachment to pets better. It reflects strong emotional bonds and lower levels of attachment. A Cronbach's alpha reliability coefficient was calculated. The reliability coefficient for (a) General attachment was estimated at

²⁴ Samuel Gosling, Peter Rentfrow, and William Swann, "A Very Brief Measure of the Big Five Personality Domains," *Journal of Research of Personality* 37 (2003): 504–528, [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1).

²⁵ Agnieszka Sorokowska, Aleksandra Słowińska, Anita Zbieg, and Piotr Sorokowski, *Polska Adaptacja Testu Ten Item Personality Inventory (TIPI) – TIPI-PL – Wersja Standardowa i Internetowa* (Wrocław: WrocLab, 2014), <https://doi.org/10.13140/2.1.4811.5521>.

²⁶ Gosling et al., "A Very Brief Measure," 504–528.

²⁷ Andrieia Nunes, Teresa Limpo, César Lima, and São Luís Castro, "Short Scales for the Assessment of Personality Traits: Development and Validation of the Portuguese Ten-Item Personality Inventory (TIPI)," *Frontiers in Psychology* 9 (2018): 461, <https://doi.org/10.3389/fpsyg.2018.00461>.

²⁸ Timothy Johnson, Thomas Garrity, and Lorann Stallones, "Psychometric Evaluation of the Lexington Attachment to Pets Scale (Laps)," *Anthrozoös* 5 (1992): 160, <https://doi.org/10.2752/089279392787011395>.

²⁹ Magdalena Kotus, "Skala przywiązania do zwierząt domowych Lexington: Polska adaptacja oraz jej osobowościowe i emocjonalne korelaty," *Testy Psychologiczne w Praktyce i Badaniach* 1 (2024): 41, <https://doi.org/10.14746/tppib.2024.1.3>.

$\alpha = .91$, (b) Human substitution was estimated at $\alpha = .84$, and (c) Animal rights was estimated at $\alpha = .80$.

Data Analysis

Cluster analysis algorithms are statistical methods used to identify internally homogeneous groups, maximally distinct from one another.³⁰ This approach has been applied to uncover meaningful patterns in the configurations of the Big Five personality traits and to examine individual differences in attachment to companion animals based on these profiles. In the present study, the k-means clustering method was employed, identifying three distinct clusters. Five personality traits in the Big Five Theory were used to conduct the cluster: (a) extraversion, (b) agreeableness, (c) conscientiousness, (d) emotional stability, and (e) openness to experience. The variables were standardized before analysis. Subsequently, the non-parametric Kruskal-Wallis test was conducted to assess significant differences among the identified clusters. To further explore these differences, the Mann-Whitney test was performed for pairwise comparisons, identifying specific variations in attachment to companion animals between the clusters. Given the exploratory nature of the analyses, no *a priori* hypotheses were formulated.

Results

K-means Cluster Analysis³¹ is a method used to categorize cases into a predetermined number of clusters.³² These clusters are defined based on a given set of variables, although their specific characteristics are initially unknown. The selection of the number of clusters (from $k = 2$ to $k = 6$) was exploratory and grounded

³⁰ Joseph F. Hair Jr., William C. Black, Barry J. Babin, and Rolph E. Anderson, "Cluster Analysis," in *Multivariate Data Analysis*, eds. Joseph F. Hair Jr., William C. Black, Barry J. Babin, and Rolph E. Anderson (Harlow: Pearson 2014), 411–474.

³¹ Databases and correlations between personality and attachment to companion animals are available for open access via the OSF platform, https://osf.io/c42xn/?view_only=dfcb823f453e480f96a6821b22d5eba5.

³² Itziar Frades and Rune Matthiesen, "Overview on Techniques in Cluster Analysis," *Methods in Molecular Biology* 593 (2009): 83, https://doi.org/10.1007/978-1-60327-194-3_5.

in a comprehensive assessment of the underlying data structure, complemented by an analysis of variance across successive clustering solutions,³³ cluster stability, representative of sample size in clusters and the interpretability of clusters within a psychological framework.³⁴ The three-cluster solution was selected to represent a balanced trade-off between maintaining intra-cluster homogeneity and achieving an interpretable and practically meaningful data resolution. This approach aligns with established recommendations in the cluster analysis literature.³⁵ Therefore, the three-cluster solution was deemed the most appropriate for the present data in SPSS Statistics. The distribution of observations across the clusters was as follows: (a) Cluster 1 ($n = 199$), (b) Cluster 2 ($n = 119$), and (c) Cluster 3 ($n = 79$). Table 1 presents the final cluster centers that reflect the characteristics of the typical case for each of the three clusters and the contribution of Big Five personality traits in the highlighted groups. These are clusters characterized within themselves, by individuals with similar intensity and pattern of personality traits.

Table 1

Final clusters centers and significance of the contribution of personality traits

Traits	Cluster 1	Cluster 2	Cluster 3
Extraversion*	.46	-.73	-.05
Agreeableness*	.48	-.95	.24
Conscientiousness*	-.16	-.12	.62
Neuroticism*	.40	-.79	.18
Openness to experience*	.45	-.05	-1.18

* $p < .01$.

The identified clusters exhibit maximal differentiation from one another, with all five dimensions of the TIPI-PL Personality Inventory significantly contributing to their formation. The trait configurations within each cluster can be conceptualized as distinct personality profiles (Figure 1).

³³ Data are available for open access via https://osf.io/c42xn/?view_only=dfcb823f453e480f96a6821b22d5eba5.

³⁴ Hair et al., “Cluster Analysis,” 411–474.

³⁵ Hair et al., “Cluster Analysis,” 411–474

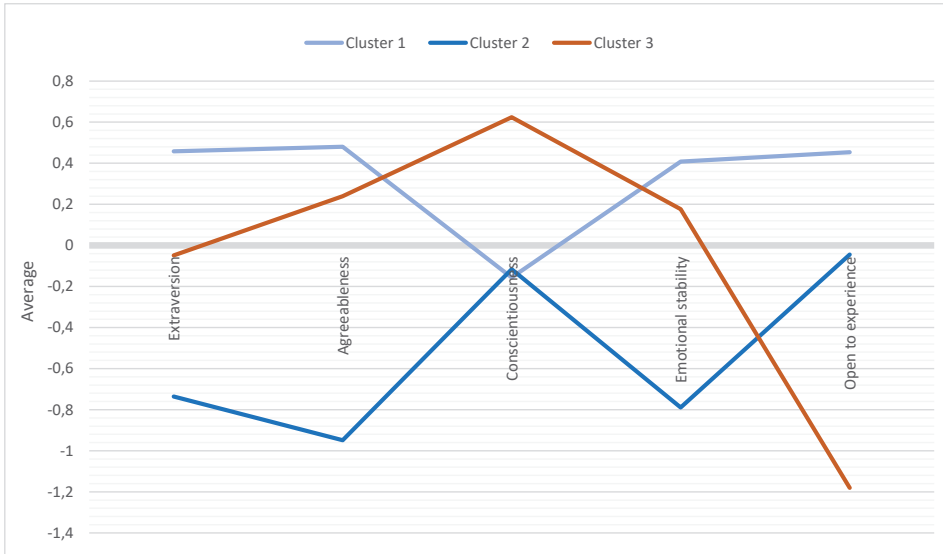


Figure 1. Personality profiles.

After the clusters had been distinguished, it was checked whether there were any significant differences between them in the context of attachment to companion animals. The *Kruskal-Willis* test, for non-parametric data, was applied. As this indicated the emergence of intergroup differences at a significance level of $p < .05$, the *Mann-Whitney* test was used to compare groups pairwise. Table 2 shows the significant differences between clusters One and Two, and also between One and Three. The second group has an advantage in ranks over Group One, meaning that people in that cluster are more attached to companion animals. Individuals with this personality profile are more likely to perceive non-human animals as substitutes for human relationships and place greater importance on animal rights. The rank difference between the first and third clusters suggests that individuals in the third personality profile exhibit a stronger attachment to companion animals. Moreover, for these individuals, nonhuman animals are more likely to fulfil a compensatory role, serving as substitutes for human interactions in their lives.

Table 2

Comparison of clusters: Mann-Whitney test

Factors	Cluster	Average rank	<i>U Mann Whitney</i>	<i>W Wilcoxon</i>	Z	P
People substituting	1	147.13	9379	9903	-3.11	.002*
	2	180.18				
Animal rights	1	149.76	29279	29803	-2.51	.012*
	2	175.78				
General attachment	1	129.28	5827.50	25727.50	-2.36	.019*
	3	154.56				
People substituting	1	127.84	5540.50	25440.50	-2.86	.004*
	3	158.55				

**p* < .05

Discussion

This study aimed to investigate whether specific configurations of personality traits are the factors that differentiate people in terms of their attachment to their companion animals. The analysis identified three distinct personality profiles among the participants and examined their differences in attachment to nonhuman animals.

Notably, the first cluster has a lower attachment to companion animals than the other groups. The participants classified in the first cluster are mainly distinguished from the other two groups by their lower level of conscientiousness and higher agreeableness. Lower levels of conscientiousness are consistent with the findings of Wells and Treacy.³⁶ Based on the traits of the Big Five,³⁷ respondents in this group are characterized by trust in others, sensitivity, friendly nature, and flexibility about others. They can express and defend their own opinions. They may prefer to be in a group and participate in social interactions, which contradicts early research

³⁶ Wells and Treacy, “Pet Attachment and Owner Personality,” 3–8.

³⁷ Bogdan Zawadzki, Jan Strelau, Piotr Szczepaniak, and Magdalena Śliwońska, *Inwentarz Osobowości NEO-FFI Paula T. Costy Jr. i Roberta R. McCrea. Adaptacja Polska* (Warszawa: Pracownia Testów Psychologicznych, 2007).

that characterized animal-attached people as open to contact with others.³⁸ People in this cluster view their experiences positively and are open to new experiences. They are emotionally stable, able to regulate their emotions, and have the resources to deal with stress. In addition, this group of participants is moderately self-motivated, reliable, and meticulous. They do not demonstrate perfectionism or the desire to succeed at any cost.

A higher attachment to companion animals characterizes the second cluster. This group is characterized by lower trust in others, an indifferent or competitive attitude towards them, and a strong defence of their principles and values. They are characterized by greater distance from social contact and a low openness for novelty. They prefer small, familiar groups of people or isolation. These results differ from de Albuquerque et al.³⁹ studies, which pointed out that people attached to their companion animals have higher levels of extraversion. Respondents in the second group are neurotic and sensitive to intense emotions. They may manifest a tendency to feel anxious and worried. Previous research shows a similar tendency to positively correlate neuroticism with attachment to nonhuman animals.⁴⁰ These individuals are, on average, self-motivated. In addition, they are characterized by both external and internal curiosity and creativity. Moreover, previous research has revealed that a combination of traits such as neuroticism, supported by higher conscientiousness, is associated with a level of care for the companion animal and increased concern for its emotional and physical state,⁴¹ which is consistent with the characteristics of the people in this cluster.

People in Group Three are also more strongly attached to companion animals. The third cluster is characterized by low curiosity and high conservatism. They need to follow the rules. These participants can also be described as organized. They are people who can regulate emotions and have the resources to manage stress and difficult situations. They appear to be trusting of others. They manifest a tendency to perseverance. They can value privacy and interpersonal contact, but do not isolate themselves. Notwithstanding, they do not always need to surround themselves with people, and they may perceive their relationship with the companion animal

³⁸ de Albuquerque et al., "Personality Traits of Brazilian Pet Owners and Nonowners and Their Association with Attachment to Pets," 5–8.

³⁹ de Albuquerque et al., "Personality Traits of Brazilian Pet Owners and Nonowners and Their Association with Attachment to Pets," 5–8.

⁴⁰ Reevy and Delgado, "Relationship Between Neuroticism Facets, Conscientiousness, and Human Attachment to Pet Cats," 392–398; de Albuquerque et al., "Personality Traits of Brazilian Pet Owners and Nonowners and Their Association with Attachment to Pets," 5–8; Wells and Treacy, "Pet Attachment and Owner Personality," 3–8.

⁴¹ Reevy and Delgado, "Relationship Between Neuroticism Facets, Conscientiousness, and Human Attachment to Pet Cats," 392–398.

as social support.⁴² They have a low tolerance for novelty. A certain rigidity and need for predictability or order in their lives may be evident in their behaviors. For individuals characterized by this set of traits, the relationship with an animal can be predictable or calming⁴³ and in line with personality-driven preferences.

Special attention should be paid to Wells and Treacy's⁴⁴ paper addressing the personality of people attached to companion animals. The authors used the same scale of attachment to animals (the Lexington Attachment to Pets Scale) but a different, shortened scale measuring the Big Five traits (Big Five Personality Scale-Short) in their study. BFI-S has good validity but a lower Cronbach's alpha coefficient value in the individual scales due to the number of items that make up the subscale.⁴⁵ Additionally, the authors used the Dark Triad Scale, which is a novelty in this research stream. Its results are consistent with the self-reported findings. It was observed that neuroticism is positively associated with the strength of attachment to animals. This is also consistent with the findings that individuals with lower non-human animal attachment exhibit lower levels of conscientiousness. The highest level of conscientiousness was observed in Cluster 3, also characterized by higher animal attachment strength. Conversely, Cluster 2 represents higher attachment to animals, although lower conscientiousness. The results obtained by those belonging to Cluster 2 suggest a personality profile similar to the characteristics of attachment styles other than secure.⁴⁶ Significantly, a secure attachment style has links with higher levels of conscientiousness.⁴⁷ This may explain why conscientiousness levels in Group Two remain relatively low, although higher than in non-attached individuals. It is noteworthy that the result of lower conscientiousness is consistent with poor mental health⁴⁸ and psychological difficulties in animal-attached individuals.⁴⁹

⁴² Meehan et al., "Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Figures," 273–289.

⁴³ Julius et al., *Attachment to Pets: An Integrative View of Human–Animal Relationships with Implications for Therapeutic Practice*, 148–155.

⁴⁴ Wells and Treacy, "Pet Attachment and Owner Personality," 3–8.

⁴⁵ Frieder R. Lang, Dennis John, Oliver Lüdtke, Jürgen Schupp, and Gert G. Wagner, "Short Assessment of the Big Five: Robust Across Survey Methods Except Telephone Interviewing," *Behavior Research Methods* 43 (2011): 548–567, <https://doi.org/10.3758/s13428-011-0066-z>.

⁴⁶ Erik Nofle and Phillip Shaver, "Attachment Dimensions and the Big Five Personality Traits: Associations and Comparative Ability to Predict Relationship Quality," *Journal of Research in Personality* 40 (2006): 179–208, <https://doi.org/10.1016/j.jrp.2004.11.003>.

⁴⁷ Xiaoyu Lan, Chen Wang, and Guanyu Cui, "Peer Relationship Profiles among Early Adolescents from Low-Income Families: The Unique and Combined Effects of Attachment to Mothers and Conscientiousness," *International Journal of Environmental Research and Public Health* 5 (2023): 4349, <https://doi.org/10.3390/ijerph20054349>.

⁴⁸ Mohammad-Naghy Farahani, Reza Kormi-Nouri, and Boele De Raad, "The Relations Between Conscientiousness and Mental Health in a North-European and a West-Asian Culture," *Journal of Mental Health* 28 (2017): 112–118, <https://doi.org/10.1080/09638237.2017.1340597>.

⁴⁹ Wells and Treacy, "Pet Attachment and Owner Personality," 3–8.

Additionally, it is essential to highlight that a different methodological approach was used in the studies. Wells and Treacy's research was focused on finding associations between individuals' variables and nonhuman animal attachment. The linear regression method used by the authors offers greater statistical control, allowing the testing of directional hypotheses and the precise determination of the strength and direction of effects.⁵⁰ Otherwise, the present research was exploratory and involved a different methodological approach. Rather than focusing solely on the predictive relationships between individual personality traits and animal attachment, the study aimed to identify structural patterns of personality trait configurations in individuals differing in their level of animal attachment. Through cluster analysis, it was possible to capture the overall trends and co-occurring traits that form the specific psychological profiles of individuals. Although with a different methodological approach, the present study may complement previous analyses by providing an alternative perspective and may serve as a starting point for further research models on the links between personality and companion animal attachment. It also should be noted that there may be differences due to the cultural contexts of the conducted studies. Cross-cultural studies indicate that levels of openness for new experiences may differ between countries,⁵¹ which may partly explain the lower levels of openness for novelty observed in this study conducted on a Polish sample. This is a relevant and crucial element to explore.

Reflecting on the current results, the respondents in the second cluster may be turning more toward nonhuman animals than the first group, as they do not show an extended need for interpersonal contact. Nonhuman animals are sufficient companions. The possibility of seeing the companion animal as a meaningful social support rises with attachment.⁵² Companion animals can support humans in coping with various forms of loneliness,⁵³ which may be rewarding for people with a lower need for socialization.

Notwithstanding, some research findings show different results. For example, dog caregivers were less socially isolated, but this effect was not observed for cat

⁵⁰ Xiaogang Su, Xin Yan, and Chih-Ling Tsai, "Linear Regression," *Wiley Interdisciplinary Reviews: Computational Statistics* (2012): 275–294, <https://doi.org/10.1002/wics.1198>.

⁵¹ Robert McCrae and Antonio Terracciano, "Universal Features of Personality Traits from the Observer's Perspective: Data from 50 Cultures," *Journal of Personality and Social Psychology* 88 (2005): 547, <https://doi.org/10.1037/0022-3514.88.3.547>.

⁵² Meehan et al., "Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Figures," 285.

⁵³ Caroline Jane Allen and Rachel Hogg, "The Human–Dog Bond as a Mediator in the Relationship Between Loneliness and Emotional Well-Being," *Human–Animal Interaction Bulletin* 10 (2022): 44–68, <https://doi.org/10.1079/hai.2022.0006>.

caregivers.⁵⁴ Moreover, the third cluster exhibits a lower need to substitute for human relationships. Generally, people in the third group are oriented towards others. However, the need for socialization can be satisfied thanks to the interaction with companion animals, such as those characterized by a desire to spend time with others, e.g., friends. Contact with representatives of another species can also serve as a way of dealing with difficult emotions, which is a challenge for individuals in Group Two. In general, these people experience their lives more internally. They do not require many external stimuli, as they are highly inclined to generate and experience internal stimuli. Contact with members of another species can be a way of coping with difficult emotions. Interactions with animals can be seen as a predictable part of life and a strategy to regulate and cope with stress⁵⁵ in people with emotional difficulties, which is supported by the current research findings. For both groups, companion animals can provide constancy and a sense of security. This may explain why the groups do not differ significantly. Similarities between Groups Two and Three may manifest in conformism, expressed through adherence to social norms.⁵⁶ Examples of such standards could be “Do not hurt nonhuman animals” or “Nonhuman animal is more than just a pet to me.” This translates into the attachment and role of animals in the lives of the people classified in these clusters.

Conclusion

This study provides valuable insights into the intricate relationship between personality profiles and attachment to companion animals. By employing the described methodological framework, including cluster analysis of the Big Five personality traits among a diverse sample of Polish participants, the research identifies distinct personality configurations that correlate with varying levels of attachment to non-human animals. The findings reveal that individuals in Cluster Two (characterized

⁵⁴ André Hajek and Hans-Helmut König, “How do Cat Owners, Dog Owners and Individuals Without Pets Differ in Terms of Psychosocial Outcomes Among Individuals in Old Age Without a Partner?,” *Aging & Mental Health* 24 (2019): 1614, <https://doi.org/10.1080/13607863.2019.1647137>.

⁵⁵ Walsh, “Human-Animal Bonds II: The Role of Pets in Family Systems and Family Therapy,” 485; Wanda Boyer, “Using Interactions Between Children and Companion Animals to Build Skills in Self-Regulation and Emotion Regulation. Educating the Young Child,” in *Teaching Compassion: Humane Education in Early Childhood*, ed. Mary Renck Jalongo (New York: Springer Science + Business Media, 2013), 33–40.

⁵⁶ Michael Wilmot and Deniz Ones, “Agreeableness and Its Consequences: A Quantitative Review of Meta-Analytic Findings,” *Personality and Social Psychology Review* 26 (2022): 108886832110730, <https://doi.org/10.1177/10888683211073007>.

by neuroticism and low openness to novelty and social interaction) and Cluster Three (characterized by low openness to new experiences, persistence, and a need for predictability) exhibit higher attachment to nonhuman animals.

Furthermore, the study highlights the complexity of human–animal interactions, emphasizing that attachment to companion animals transcends mere ownership and is deeply rooted in individual personality traits. These insights not only enrich the existing literature on the human–animal bond, but also underscore the potential supporting benefits of fostering such relationships, paving the way for future research to explore human–animal interactions and understand the psychological mechanisms underlying human–animal attachment.

Attachment to people and animals in the context of personality carries important implications for mental health.⁵⁷ A better understanding of the psychological mechanisms and characteristics of people with strong attachments to animals may have important implications for educational and preventive measures, especially in shaping pro-animal attitudes and developing empathic competence. The data obtained may also be helpful in psychological and therapeutic practice. Learning about the personal determinants of attachment to animals can enable a better understanding of the needs of people who develop strong relationships with their animals. This is particularly relevant in situations requiring emotional support, such as in the context of experiencing bereavement after the loss of an animal. These experiences are often socially marginalized and considered illegitimate.⁵⁸ Understanding the characteristics of individuals who form relationships with nonhuman animals, and what these relationships mean to the patient, can be an essential part of psychological support.

However, while the increase in companion animal-care keeping is noteworthy, the implications of this trend should be examined multidimensionally. The assumption that all individuals who own companion animals view them as irreplaceable companions or family members may not hold across different cultures and communities. Many people may adopt animals for practical reasons, such as security or utility, rather than for the need of emotional attachment. Additionally, the human–animal bond should not be idealized; there are numerous cases where animals are neglected or abandoned, highlighting that not all relationships are built on mutual affection. Understanding these dynamics is crucial for a more nuanced view of human–animal interactions.

It is also crucial to emphasize that one of the key limitations of the present study remains the low reliability of one of the TIPI subscales – Openness to Experience.

⁵⁷ Wells and Treacy, “Pet Attachment and Owner Personality,” 8.

⁵⁸ Rachel Park, Kenneth Royal, and Margaret Gruen, “A Literature Review: Pet Bereavement and Coping Mechanisms,” *Journal of Applied Animal Welfare Science* 26, no. 3 (2023): 285–299, <https://doi.org/10.1080/10888705.2021.1934839>.

Reduced reliability of the indicated factor is observed in adaptations of the tool in many countries and research studies. The literature highlights that the number of items influences the Alpha Cronbach's coefficient.⁵⁹ The Openness to Experience subscale contains only two items, which significantly impacts the reliability value.⁶⁰ Additionally, the decision to include all Big Five factors in the cluster analysis was made to treat the personality construct as an undecomposable, integrated theoretical model. Removing one of the components could lead to a significantly distorted representation of personality and limit the possibility of interpreting the profiles in a manner consistent with the five-factor approach. Such a decision involves interpretive risk, so there is a need for caution when generalizing the results, and it is encouraged to replicate the survey using more complete and reliable measurement tools.

A significant limitation of the study is also the perceived numerical disparity between the women and men participating. Nevertheless, it was decided to carry out an overall analysis without excluding the male group, as the study aimed not to compare variables by gender but to explore the general relationships between personality traits and attachment to animals.⁶¹ Although the disparity above does not directly affect the main conclusions of the analysis, caution is advised when generalizing the results to the entire population. In future studies, it is recommended to aim for a more balanced sample structure regarding gender. Furthermore, the sample, consisting mainly of Polish participants, may not accurately represent global perspectives on nonhuman ownership and attachment. The interplay between personality, social factors, and individual experiences significantly shapes human–animal relationships. It is advisable to study personality and attachment to companion animals in different cultural contexts. Finally, future research should ensure a more comprehensive understanding of the factors contributing to companion animals' attachment. Further research must consider the various emotional and social factors that may influence the building of interspecies relationships.

⁵⁹ Martin Schrepp, “On the Usage of Cronbach's Alpha to Measure Reliability of UX Scales,” *Journal of Usability Studies* 15 (2020): 247–258; Panayiotis Panayides, “Coefficient Alpha: Interpret with Caution,” *Europe's Journal of Psychology* 9, no. 4 (2013): 687–696, <https://doi.org/10.5964/ejop.v9i4.653>.

⁶⁰ Philip Yorck Herzberg and Marcus Roth, “Beyond Resilients, Undercontrollers, and Overcontrollers? An Extension of Personality Prototype Research,” *European Journal of Personality* 20 (2006): 5–28, <https://doi.org/10.1002/per.557>.

⁶¹ Aada Ståhl et al., “Pet and Owner Personality and Mental Wellbeing Associate with Attachment to Cats and Dogs,” *iScience* 27 (2023): 108423, <https://doi.org/10.1016/j.isci.2023.108423>.

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