



TECHNIUM

SOCIAL SCIENCES JOURNAL

9 R 09

1

\$ Q H Z G H F D
I R U V R F L D O

,661



ZZZ WHFKQLXPVFLHQFH FRF

Identify the relationship between personality factors and empathy for animals

Călin Mariana Floricica¹, Sandu Mihaela Luminița², Simioana (Lazăr) Maria Adina³

^{1,2,3}Ovidius University of Constanta, Faculty of Psychology and Educational Sciences
mariana.calin@365.univ-ovidius.ro¹, mihaela_naidin@yahoo.com²

Abstract. This paper aims to outline a psychological profile of people who show empathy for animals, taking into account personality factors and attachment style. Although in recent years research on the relationship between humans and animals has grown considerably, and every day more and more research is published exploring the links between humans, animals, empathy and behavior, in Romania this topic has not been of much interest. , given the tiny number of researches in this area. Empathy is often studied because it relates to humans, but there is a growing interest in the relationship, development and its impact on animals. This interest is often driven by a curiosity in the role of empathy as an internal motivator for changing pro-environmental behavior. As with many internal affective responses, the connection is not always directly clear, but growing evidence suggests that empathy may influence the likelihood of pro-environmental behaviors. It can be said with certainty that empathy can play an important role in understanding the experiences and needs of animals, and can be considered as a potential way to preserve emotional behaviors.

Keywords. Relationship, factors, personality, empathy, animals

1. Attachment

One of the central elements of attachment theory is the notion that early childhood lays the groundwork for personality development, and a secure attachment to a caregiver is one of the first basic needs in a child's life (Beck, Madresh, 2008). The theory is developed from the ideas of John Bowlby (1969, 1973), who theorized that children of species with an extended period of dependence are biologically motivated to establish and maintain selective links with the figures in their environment, which they are able to provide care until adulthood.

Bowlby's (1973, 1980) theory of this innate attachment system was described by Bretherton (1985) as a "psychological structure" whose main objective is to regulate behaviors designed to maintain or initiate closeness / contact with selected attachment figures. Bowlby (1969) proposed that the attachment system be most useful in situations where infants feel threatened, stressed, scared, tired or sick, and that it intensifies when the attachment figures provide the desired comfort. These early relational experiences give rise to an internal representation of the self, others and the

self in relation to those around them, creating a mental construct referred to as the “internal working model” (Carr, 2011).

The concept of “internal work model” explains how children make sense of the early experiences they had with their caregiver (Bartholomew, Shaver, 1998). The child internalizes these reasonings based on the way the caregiver treated him, thus forming those models and ideas about who is and who is the caregiver (Goldsmith, et al., 2004). The model reflects a generalized mental representation of the world, of significant people and how they relate to those around them (Carr, 2012). At the same time, it represents a collection of cognitive and affective schemes through which the individual understands the world: their expectations, their emotions and inter-relational behaviors. Internalized information is used to build a model on what to expect from the attachment figure in the future (Goldsmith, et al, 2004).

A person's internal work pattern is considered responsible for common patterns of responses in close relationships, which are called guidelines, styles, or patterns of attachment. "In short, internal work patterns directly affect the way people interpret the social world, how their attachment desires and needs develop, trying to respond to these desires and needs" (Cobb, Davila, 2009, p.210). It was considered that, “In the construction of such working models, children essentially develop and internalize both parts of the parent-child relationship model ...” (Carr, 2012 p.13) whose influence is so great that it is possible to maintain the same parenting pattern when they become parents (Parish-Plass, 2008; Van IJzendoorn, et al., 1995).

1.1. Attachment styles and animals.

Bowlby's attachment theory suggests that infants from different animal species have developed a behavioral system that protects them from danger and facilitates safe exploration by maintaining proximity to an attachment figure (Kwong, Bartolomew, 2011). "The fact that many species have attachment processes offers the possibility that attachment links develop not only within species but also between species" (Kwong, Bartolomew, 2010 p.422).

For many attachment writers, the idea of considering animals as attachment figures is difficult to accept (Zilcha-Mano et al, 2011). However, Bretherton (1985) pointed out that, in its most technical sense, the term attachment refers to the use of the caregiver to perform the functions presented by Hazan and Shaver (1994); safe base, safe haven and maintaining proximity. This has been important for the development of this branch of attachment theory, as many criticisms stem from a lack of clarity to distinguish human-animal attachments from other types of affective bonds (Boag, 2010).

Kwong and Bartholomew (2010) considered that the roles of caretakers were probably a precursor to the development of human-animal attachment relationships, using as a sample assistance dogs and humans. Their findings highlighted that, although elements of supportive links were present in their sample, there were clear indicators that dogs met the needs of safe haven and safe base, adding to the attachment literature that human-animal attachment is not substantiated.

Using the four attachment characteristics (Hazan, Shaver, 1994) as conceptual guidelines, Zilcha-Mano et al. (2011) provided evidence that animals can fulfill the role of attachment figure by assessing the quality of human-animal dyads. They examined relationships and found, using the anxious and avoidant attachment scales of the Pet Attachment Questionnaire (PAQ), that pets can become attachment figures for their owners; this is most important when the animal has a social nature itself (Kurdek, 2008, Odendaal, Meintjes, 2003). The center of security felt in an attachment relationship are the feelings that one is “accepted and loved unconditionally ...” (Zilcha-Mano et

al., 2011, p.2) and that the care and support received are delicate, available and consistent. (Sable, 2012).

In this regard, Levinson (1978) deepened the idea that animals are seen as attachment figures. His psychotherapeutic work led him to conclude that “a pet is a natural‘ object ‘of attachment, being available, active and affectionate. Having a relationship with a living creature other than another person allows for the realization and expression of a wide range of behaviors and interactions (Chandler, 2012; Karen, 1994; Sable, 2012).

As Zilcha-Mano et al. (2011) state, those who oppose the consideration of animals as attachment figures do so on the premise that “an attachment figure is usually another human being who, unlike a pet, can provide advice and assistance and can talk about worries and fears. In addition, an attachment figure is usually a stronger and wiser figure, not a pet, who, like a child, needs the attention and care of its owner to survive ”(p. 2). Despite criticism, Hirschman (1994), McNicholas, and Collis (1995) found that people in their research sample to describe the relationship between humans and pets are characterized by stability, consistency, tenderness, warmth, loyalty, authenticity, and lack of judgment or competitiveness (Zilcha-Mano, et al., 2011).

In addition, Odendaal and Meintjes (2003) and Kurdek (2008) indicated that pet owners feel close to pets and are delighted by such closeness; in other words, look for closeness to pets. These researchers further conclude from their research interviews how animals provided participants with support and affection, comfort and relief in times of need; easily meets the requirements of what constitutes a safe haven. In addition, Cusack (1988) reported that animals helped their subjects with confidence in exploring new activities, thus providing a safe base for the individual (Hazan, Shaver, 1994).

A significant benefit of using attachment theory in exploring human-animal relationships is that it provides researchers with a conceptual foundation (Beck, Madresh, 2008; Kwong, Bartolomew, 2011; Zilcha-Mano, et al, 2011). For example, theory provides a clear conceptual definition of what is actually an attachment relationship for people. Attachment theorists convey a clear taxonomy that helps distinguish true attachment relationships from other close ties (which are not necessarily attachment ties themselves). Specifically, attachment styles should be (a) reliable sources of comfort (a safe base), (b) sought in times of distress (a safe haven), (c) have their physical presence, which provides them a joy and a sense of security (maintaining closeness) and (d) their illicit physical absence a feeling of suffering (separation distress) (Kurdek, 2008).

In connection with these criteria, researchers (Beck, Madresh, 2008; Kurdek, 2008) have sought to provide evidence that humans appear to conceptualize relationships between themselves and animals as attachments (Sable, 2012). For example, Kurdek (2008), using a self-report method developed specifically for this purpose, investigated the extent to which the self-reported feelings of some owners suggest that their pet is a safe haven (e.g., “When I feel bad and I need an impulse, I go to my dog to help me feel better ”), the sure basis (for example“ I can count on my dog to be there for me ”), the desire to keep proximity (e.g., “I like to have my dog by my side”) and separation suffering (e.g., “I miss my dog when I'm away from him”), using a specially developed self-report measure For this purpose. Its results suggested that pets certainly seemed to satisfy these attachment functions, with average values well above the average subscale point.

However, Kurdek (2008) explored and compared the extent to which owners considered turning to their dogs as a refuge, compared to other key attachment figures, such as mothers, fathers, siblings, the most good friends, romantic partners and children. The results suggested that dogs were preferred more significantly than the rest of the figures, apart from romantic partners.

Kurdek (2008) concluded that his data are evidence that humans can form attachment bonds with animals in a manner consistent with the literature on attachment theory. Kurdek's (2008) data suggest that animals appear to fulfill the functions of an attachment figure, but that the extent to which it occurs is likely to depend on the characteristics of the person and animals.

Datele mai recente ale lui Kwong și Bartolomeu (2011) au susținut această presupunere și au condus un studiu bazat pe analiza de interviuri semistructurate, ce a vizat opiniile participanților despre relațiile lor cu câinii de asistență. Descoperirile au sugerat că animalele au fost surse puternice de confort în perioadele de suferință. De asemenea, datele au arătat că pentru puțin mai mult de jumătate dintre participanți, câinele de asistență îndeplinea și rolul de bază sigură. Participanții, au descris modul în care securitatea și stabilitatea oferite de câinele lor de asistență au constituit o bază pentru încredere și explorare. În general, cercetarea a demonstrat că animalele par să poată îndeplini în mod satisfăcător funcțiile de figură de atașament.

Chur-Hansen et al. (2009) wrote: "It could be argued that while attachment to a pet can have positive health benefits, it is plausible that extreme attachment can lead to less desirable health outcomes. ". For example, in connection with mental health, an individual may be isolated from other social supports because of the relationship with the pet. Beck and Katcher (2003) proposed the idea that for some people, there may be a psychopathology that affects a person's ability to interact with other people, so animals become preferred attachment figures.

From research on human-animal attachment, the results suggest that our need for attachment relationships is so fundamental that it can be met through relationships with other species (Kwong, Bartolomew, 2010). Both Archer (1997) and Morey (2010) speculate that dogs are best suited to fulfill this role due to their inclination to treat people with affection. Indeed, research on dogs (as an attachment figure) has speculated that humans form attachments to animals to compensate for insecure human attachments (Archer, 1997). However, more current research suggests that human-animal attachments could also be established without a lack of security in human-human relationships (Kwong, Bartolomew, 2010).

Este de recunoscut faptul că, deși un individ are relații adecvate cu semenii, poate avea, sau nu, nevoie de relații de atașament cu animale, însă indivizii cu atașamente compromise sau cei care au deficiențe relaționale, ar putea fi mai susceptibili de a stabili legături strânse cu animalele (Parish-Plass, 2008).

2. Empathy

The term empathy has its origins in 1873, in the context of German aesthetics, when Robert Vischer proposed the term *Einfühlung* to designate the way to know a work of art through human feelings. Later, in 1897, the German psychologist Theodor Lipps spoke of empathy as the way of perceiving and appreciating art forms, thus reaching the development of a theory that extended the concept in the sphere of interpersonal functioning and understanding of others (Clark, 2007, in Dimitriu, 2007). During the twentieth century, the concept of *Einfühlung* had a growing interest, being translated in the U.S. by the psychologist Edward Titchener, thus reaching the current term empathy which comes from the Greek empathy (Dimitriu, 2007).

Considered a trait common to all individuals but manifested in different forms and levels, following studies and research on the concept, S. Marcus (1997) defined empathy as "that psychic phenomenon of reliving the states, thoughts and actions of the other, acquired through psychological transposition of the ego in an objective model of human behavior, allowing the

understanding of the way the other interprets the world” (Marcus, 1997, apud Popescu, Omer, 2011, p. 58).

Empathy, in the broadest sense, refers to an individual's reactions to another's experiences. Davis (1983) explains empathy in terms of a multidimensional construction, which takes into account both the intellectual and emotional states of another individual, in order to understand the perspective of another and have an emotional response to it. Aronson (1995) considers empathy as our ability to experience suffering after seeing someone else in suffering. This ability, Aronson continues, determines who and in what situations we help others. It allows us to pay attention to how someone else is feeling or what he or she might be thinking (Baron-Cohen, Wheelwright, 2004). Empathy occurs when we suspend our only attention and instead adopt a double attention (Baron-Cohen, 2011).

Batson, O'Quin, Fultz, Vanderplas, and Isen (1983) suggest that empathy leads to altruism and state that our ability to experience our own suffering and to contemplate another person's current state of suffering leads to our empathic concern. Finally, empathic concern leads to altruism that is disinterested and focused more on reducing the suffering of others than on reducing one's own suffering. Although the initial experiment of Batson et al. (1983) which provided for the testing of empathic concern, was criticized for the bias of the evidence, in subsequent experiments seeking to remedy this problem. Thus, a subsequent study found that, even in situations that did not lead to any social reward, empathy promoted altruistic behavior (Fultz, et al., 1986).

Bartat, Decety and Mason (2011) argue that empathy can be extended to animals. They observed that in the presence of a live rat caught in a restraint mechanism, his cage colleague would help free the rat from suffering. Moreover, Bartat and his collaborators came to the conclusion that, even when he was offered a treatment such as chocolate, the rat continued to try to help his blocked comrade. The empathy observed in the study of Bartat and collaborators was based on the idea of emotional contagion, which assumes that an animal may be more sensitive to suffering if it observes the suffering of another animal (Langford et al., 2006). Although the experiments of Batson et al. (1983) and Bartat et al. (2011) raise concerns about external validity, for example, Fultz et al. involved only female participants and Bartat et al. only involved rats, their work suggests how empathy works and how empathy influences behavior.

2.1. Ontogenesis of empathy for animals

As with human empathy, it is difficult to develop an accurate and universal pattern of the ontogenesis of empathy for animals, as it is influenced by many personality factors and environmental variables.

Sensitivity to the feelings and needs of animals presupposes, first of all, the awareness that animals are living beings (Ascione, 2005): as individuals grow, they improve their knowledge about animals and develop more sophisticated cognitive and emotional skills, hence empathy and attitudes of animals varies with age.

Although infants under the age of six months are able to distinguish animals from inanimate objects based on their perceptual characteristics (Gelman, 1990), it seems that at the age of under six there is little recognition or appreciation of animal feelings: in this regard, Carey (1997) found that four- and five-year-olds did not know that all animals eat and breathe.

The age of six to nine years seems to be particularly important for the development of empathy for animals, because during this period there are important changes in children's sensitivity to animals. By this age, children become more aware that animals may feel pain and

suffering, and may become able to make direct analogies between the physical appearance and important functions (such as breathing and observation) of animals and humans (Kellert, 1996; Kahn, 1997). Comparisons focused on the similarity between animals and humans appear to be a key element for the development of empathy towards animals (Pallotta, 2008).

Moreover, the average age for the onset of the “animal injury” symptom is 6.5 years, which suggests that by this age children understand that animals have the ability to feel pain and suffering (Ascione, 2001).

From an early age to adolescence, children's reasoning about animals and nature in general increases, developing moral values towards them (Kahn, 1997). An increasing experience with animals can help children to correctly understand the emotional signals of animals, especially if there is a competent adult to guide them (Ascione, 2005).

Therefore, knowledge of and experience with animals seem to be two central factors in the development of empathy for animals. Experience with animals can also increase the ability to imagine the role of the animal, promoting a positive attitude towards them (Pallotta, 2008).

Regarding animals, the level and kind of experience of a person with a certain animal or species influences the ability of humans to understand the emotional signals of animals and empathy towards them. Some studies show that individuals who had pets as children or owned them at the time of the research showed more positive attitudes toward animals and higher levels of animal-oriented empathy compared to those who did not (Daly, Morton, 2009, Ellingsen et al., 2010). The type of experience affects attitudes towards animals, as much as the level of experience. Among dog owners, levels of empathy are higher in people who keep dogs for companionship than those who use them for hunting, thus reflecting the different influences of the type of relationship with the animal (Ellingsen, et al. 2010).

2.2. Factors affecting the development of empathy for animals

A number of factors that affect empathy for other people can also be found in terms of empathy for other animals, although research in this area is quite limited.

First, two personality traits show a negative correlation with empathy for animals, namely hostility and the need for power, with subsequent relevance of negative influence and empathy for humans (Bennett, 1988). Individuals with high levels of power need are characterized by a utilitarian vision of others, which lowers the level of empathy. In contrast, hostility causes a temporary decrease in empathy, increasing aggression and predicting a lower sensitivity to animal abuse (Oleson, Henry, 2009). On the contrary, Mathews and Herzog (1997) found that other personality traits, such as sensitivity, typical of people with artistic and intuitive abilities, or the tendency toward fantasy and unconventionality, are positively correlated with a correct attitude toward animals.

Like empathy for people, empathy for animals can be influenced by culture, which plays an important role in the development of animal ideology. Al-Fayez and colleagues (2003) found evidence consistent with a less positive attitude toward pets in Muslim countries than in the United States, because the Muslim world usually has an instrumental view of animals, attributing economic value to them, and not emotional; for example, dogs are considered "dirty" in the Islamic religion and are used for hunting and guarding the fields, but are not considered pets. Also, the social status of animals depends on the culture, as has been clearly demonstrated, for example, by the attitudes towards insects in Japan, where insects seem to be the first animal a child plays with and some of them, such as the beetle, rhino or deer beetle are considered not only toys, but

playmates. These insects are perceived by children as familiar animals, not dangerous, with which they can communicate; children play with them, raise them, observe them, listen to them and sing songs about them, in the context of mutual interactions in which play and emotional connection are important elements (Laurent, 2000).

As expected, studies comparing the particularities of people in animal protection and vegetarians, who share the goal of avoiding cruelty to animals and protecting them, and the particularities of a general Community sample, found that subjects in the first two categories they have more positive attitudes towards the treatment of animals and have a higher empathy towards animals than others (Signal, Croitor, 2007; Preylo, Arikawa, 2008; Filippi et al., 2010).

The child's socialization and cultural conditioning are mediated by the parents, so that attitudes towards animals are initially developed in a family setting. In a study of members of an American family, it was shown that the attitude towards adolescents' pets was best predicted by the attitude of the adolescent's mother (Schenk et al., 1994), while the attitude towards pets of Kuwaiti adolescents correlate more with that of their fathers than with that of their mothers. This different family model seems to be consistent with the more dominant role of the father in Arab families (Al-Fayez et al., 2003).

Although these studies did not determine concise transmission mechanisms, the imitation mechanism is likely to be involved, as suggested by the fact that children and adolescents often begin to abuse animals by reproducing the behavior of a parent exercising coercive "discipline" on pets. (Ascione, 2001). The parental model is also a mechanism by which fear of animals can be acquired at the beginning of life (Davey, et al., 1993, Gerull, Rapee, 2002), and fear of animals is associated with a less favorable attitude towards ele (Schenk, et al., 1994, Ascione, 2001).

3. Personality

The approach to personality traits assumes that the human personality consists of predispositions (traits) that are expressed in a relatively stable way in a variety of situations and over time. Personality traits include a person's way of thinking, feeling, perceiving and relating to others. These traits are evident from late childhood or adolescence and include what is unique to us and what we share with others. Over time, many studies have identified and evaluated the main personality traits. Thus, from Allport (1937), Cattell (1950), Eysenck (1953) to the Big Five, traits are generally seen as vast dimensions that designate individual differences, and explain interindividual consistency and continuity in behavior, thinking, and feelings. , in situations and in time.

According to Allport (1961), personality is the dynamic organization of the individual's psychophysical systems that determines his characteristic behaviors and thoughts. While acknowledging that certain characteristics are common to all people, there are others that are more specific, such as personal dispositions. His idiographic approach has assumed that individuals do not necessarily act the same in different contexts and it is not always possible to generalize from the behavior of individuals.

Each individual is unique in a specific configuration of features. He defines six criteria for a mature personality: autonomy, warm relationship with others, tolerance of frustration, realistic perceptions and abilities, intuition and humor and self-determination. One of his first projects was to go through the dictionary and locate every term he thought could describe a person. From this, he compiled a list of 4,500 words that refer to traits. This is similar to Goldberg's (1981) fundamental lexical hypothesis or the hypothesis that, over time, people develop generic terms

widely used for individual differences in their daily interactions. Allport argued that certain traits are more significant to one person than another.

Therefore, he divided the traits into three levels: 1. The cardinal trait: this is the trait that dominates and shapes a person's behavior. These are passions, obsessions, such as the need for money, fame, etc. 2. Central feature: this is a general characteristic found to some extent in each person. These are the basic elements that make up most of our behavior, although they are not as overwhelming as the cardinal features. An example of a central trait would be honesty. 3. Secondary trait: these are characteristics seen only in certain circumstances (Allport, 1931). Moreover, other people may not notice secondary features unless they have very close knowledge. These must be included to provide a complete picture of human complexity. To describe personality, traits can be very useful, but when we explain a person's behavior and motivations, other theories come to complete this description. Allport's theory was one of the first humanist theories, which later influenced many other authors.

Then, Cattell (1950) defined personality as the tendency to predict a person's behavior in a given situation. Starting from the theory of observations about features, Cattell was interested in personality after a mainly factorial and lexical approach. The lexical hypothesis is based on the assumption of the existence of a correspondence between the descriptors (traits) of the personality and adjectives of the language, in order to describe the individuals. Using factor analysis, he concluded that the basic dimensions of personality are common to all individuals. Characteristics, according to Cattell, are permanent entities that are inherited and that develop throughout an individual's life.

Adopting the lexical approach and using factor analysis, Cattell (1947) identified 35 features, which are grouped into 16 facets and which were later grouped into 5 original features. Thus, the behavior can be organized hierarchically and as a result, can be quantifiable. Initially, Cattell was particularly interested in describing concrete behaviors or traits. It was only later that he tried to combine features on a global scale to describe the structure of his personality. Cattell's personality factor questionnaire (16PF) describes 16 specific traits combined to allow the prediction of behavior with multiple variations. To build this scale, Cattell adopted a hierarchical approach to personality, ranging from specific to general features. In this hierarchical structure, the bottom-up method was used, compared to other tools that appeared later and followed the top-down method, such as EPI or NEO-Personality Inventory. These later tools first tried to define the main dimensions and only later were they able to identify the subscales. Hierarchical structure was, for them, a priority way of describing personality (Rossier, et al., 2004).

3. Research methodology

3.1. Objectives

The general objective of the research is to identify whether there is a link between personality factors and people's empathy for animals.

Secondary objectives:

- Identify a gender difference in terms of empathy for animals and personality traits;
- Identify differences in the empathy for animals of pet owners and non-pet owners;
- Identify a difference in empathy for animals in people who do animal charities and those who do not do animal charities.
- Identify a correlation between empathy for animals and personality traits;

- Identify a possible correlation between empathy for animals and attachment styles.

3.2. Hypotheses

Hypothesis 1: It is assumed that there is a significant difference in terms of empathy for animals and personality traits, depending on gender.

Hypothesis 2: It is assumed that there is a significant difference between empathy for animals and the possession or not of pets.

Hypothesis 3: It is assumed that there is a significant difference in terms of empathy for animals in people who do animal charities and those who do not do animal charities.

Hypothesis 4: It is assumed that there is a correlation between empathy for animals and personality traits.

Hypothesis 5: It is assumed that there is a correlation between empathy for animals and attachment styles.

3.2. Study participants

The sample that supports this research consists of 117 subjects recruited online and is composed as follows:

- 84 (71.8%) female subjects and 33 (28.2%) male subjects;
- 88 (75.2%) subjects from urban areas and 22 (28.2%) from rural areas;
- 41 (35%) subjects aged 18 to 29 years, 40 (34.2%) aged 30 to 39 years, 17 (14.5%) aged 40 to 49 years, 18 (15.4%) aged between 50-59 years, 1 (0.9%) aged over 60 years;
- 77 (65.2%) pet owners and 40 (34.2%) subjects who do not own pets;
- 82 (70.1%) subjects who do animal charity and 25 (29.9%) subjects who do not do animal charity.

3.3. Research tools

Three working tools were used in this research: Five-Factor Personality Inventory (FFPI), Adult Attachment Scale by Collins & Read (AAS) and Animal Empathy Scale (AES).

4. Analysis and interpretation of results

Hypothesis 1. It is assumed that there is a significant difference in terms of empathy for animals and personality traits, depending on gender.

The value of the coefficient Sig. (2-tailed) is less than 0.05, therefore there is a significant difference in terms of empathy for animals by gender, so the hypothesis is confirmed (Table 1).

Table 1. Statistics test

	animal_empathy
Mann-Whitney U	782.500
Wilcoxon W	1343.500
Z	-3.659
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: gen

Since we have values of the coefficient Sig. (2-tailed) less than 0.05, there are significant differences depending on gender, in terms of extraversion, kindness and emotional stability, so the hypothesis is confirmed (Table 2).

Table 2. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
extraversiune	Equal variances assumed	,847	,359	2,757	115	,007	6,585	2,389	1,854	11,317
	Equal variances not assumed			3,015	71,538	,004	6,585	2,184	2,231	10,940
amabilitate	Equal variances assumed	2,782	,098	-2,442	115	,016	-4,400	1,802	-7,969	-,831
	Equal variances not assumed			-2,247	50,081	,029	-4,400	1,958	-8,333	-,468
stabilitate_emotionala	Equal variances assumed	,093	,761	3,838	115	,000	8,749	2,279	4,234	13,264
	Equal variances not assumed			3,585	51,393	,001	8,749	2,441	3,850	13,648

Following statistical analyzes, the hypothesis that there is a significant gender difference in the manifestation of empathy and personality traits is confirmed. Thus, the data obtained indicate that women recorded higher scores than men in empathy for animals (women $m = 70.95$, men $m = 61.61$) and kindness (women $m = 80.64$; men $m = 76.24$), and men they recorded higher scores than women in extraversion (women $m = 66.52$; men $m = 75.27$) and emotional stability (women $m = 80.64$; men $m = 76.24$).

According to the literature, the data show that women are more empathetic about animals than men. An example is the study "Interpersonal and Pet Attachment, Empathy towards Animals, and Anthropomorphism: An Investigation of Pet Owners in Romania" led by Rusu Alina Simona and collaborators, published in 2019 in volume 2 of the journal "People and Animals: The International Journal of Research and Practice". It was conducted on a sample of 244 subjects of Roman nationality aged between 17 and 66 years, mostly women (89.8%), and statistical data indicated a higher level of empathy for animals in women.

It could be considered that this difference arises from the fact that the woman, by her nature, possesses a higher level of the hormone oxytocin, which predisposes her more to be more sensitive, caring, affective and more empathetic, both towards her peers. as well as other living species. This consideration is supported by the study conducted by Melanie Connor and collaborators "Associations between Oxytocin Receptor Gene Polymorphisms, Empathy towards Animals and Implicit Associations towards Animals" published in 2018, in the journal "Animals: an open access journal from MDPI".

Authors such as Costa (2001) and Rahmani (2012) have conducted studies that found that women are more likely to score higher than men in terms of kindness (for example the study by Soudeh Rahmani and Masoud Gholamali Lavasani " Gender differences in five factor model of personality and sensation seeking "published in 2012 in volume 46 of the journal " Procedia - Social and Behavioral Sciences "). Of course, the characteristics of this trait provide a good explanation for the fact that women are more empathetic than men. It can be said that their prosocial attitude, modesty, sensitivity, altruism, and attention to the needs of others, extends beyond interpersonal relationships and is reflected in the attitude towards animals.

Referring to the opposite pole, in which men scored higher on emotional stability and extraversion, but lower on empathy and kindness, a few inferences can be made.

According to several studies, women are thought to feel and express emotions more intensely and more frequently than men (e.g., Brody, Hall, 2010; Fischer, et al., 2002). These emotions target happiness, love, amazement, sadness, fear, shame, embarrassment, guilt and

anxiety, but men are expected to feel and express more strongly than women the emotions of anger and contempt. Thus, it can be explained that women's increased sensitivity predisposes them to an emotional empathic response reaction when they observe a happy or needy animal.

Looking at emotional stability and extraversion together, one can also explain the significant difference in terms of empathy for animals by gender. Women are more vulnerable to stressors, they are more likely to develop anxiety and depression, which is confirmed by the lower scores obtained for both traits. Therefore, the need for emotional support, to drive away the feeling of loneliness and misunderstanding, predispose people to orient themselves to an interaction with animals, precisely to find the mental comfort they need. Animal-human interaction is beneficial for humans because they develop sentimental relationships with animals, which leads to mutual empathy. According to other studies, Harker et al. (2000) proposed that relationships with animals have many benefits for the well-being of those without an adequate source of affection and attachment from peers or those who have encountered difficulties in interpersonal relationships.

Following these records, it can be said that differences in personality traits depending on gender, influence the level of empathy for animals.

Hypothesis 2. It is assumed that there is a significant difference between empathy for animals and whether or not to own pets.

Table 3. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
empathie_animale	Equal variances assumed	5,857	,017	-3,706	115	,000	-8,078	2,180	-12,396	-3,760
	Equal variances not assumed			-3,389	62,426	,001	-8,078	2,384	-12,842	-3,314

From the data presented in table 3. the significance threshold lower than 0.05 is obtained, obtaining the comparison coefficient Sig. (2-tailed) = 0.001, so the hypothesis is confirmed.

Statistical analysis of the data confirmed the hypothesis, so that it was shown that animal owners have a higher level of empathy (m = 71.08) than those who do not have pets (m = 63.00).

The study by Daly B. and Morton L, "Empathic differences in adults as a function of childhood and adult pet ownership and pet type" published in 2009, shows that people who had pets in childhood or kept them in at the time of the research they demonstrated more humane attitudes towards pets and a high level of empathy oriented towards the rest of the animals, compared to those who did not.

One explanation in favor of this phenomenon is that direct experiences with animals and the knowledge gained about them, are like a guide to feel or understand the emotions, experiences and needs of an animal. It can be considered that it is about the same concept of familiarity that contributes to the emergence of empathy between people. I also consider continuity to be relevant, which describes how spending more time with the animal increases a person's understanding and empathy for the animal.

Therefore, experiencing and becoming aware of the animal as a creature, manifesting needs, emotions, thoughts and feelings similar to humans, most likely leads to those situations where an unmet need for an animal or a chance to improve an animal's life is empathetically recognized.

Another argument to consider, as the literature argues, is anthropomorphism. Chawla (2009) believes that anthropomorphism can help people better understand or empathize with the animal, showing feelings of compassion or empathic concern. In studies investigating the antecedents of anthropomorphism, inducing participants' feelings of loneliness, increased the tendency to attribute human characteristics to pets, especially those attributes that are considered important for creating social connection, such as respect and sympathy (Epley, et al. , 2008).

Thus, Serpell (2002) considers that anthropomorphized animals can drive away feelings of loneliness. Whether the projections are correct or not, when animals are considered to have human characteristics, they are more likely to be considered empathetic and protective. The study by Butterfield and colleagues (2012) showed that when participants were asked to think of an animal (dog) as more human, they were more likely to report that they wanted to adopt animals (dogs) than in a shelter, to support animal rights, to be concerned about animal welfare and even to adopt vegetarian and vegan food styles.

Studies by researchers on the higher level of empathy for animals of pet owners show the importance of forming an early human-animal bond, understanding their needs and emotions and the concept of anthropomorphism that involves finding similarities with non-speakers, which have the role of predisposing man to develop empathy, understanding and compassion for animals.

Hypothesis 3. It is assumed that there is a significant difference in empathy for people who do animal charities and those who do not do animal charities.

Table 4. Test Statistics^a

	animal_empathy
Mann-Whitney U	820.000
Wilcoxon W	1450.000
Z	-3.664
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: acte_caritabile

From the data shown in table 4. the significance threshold lower than 0.05 is obtained, obtaining the comparison coefficient Sig. (2-tailed) = 0.000, so the hypothesis is confirmed.

Statistical analysis of the data confirmed the hypothesis, so that it was shown that people who do animal charity have a higher level of empathy ($m = 71.15$) than those who do not do animal charity ($m = 61.69$).

In the literature, empathy is often associated with a motivational state that leads to the act of providing help. As Gruen L. (2014) argues, motivations fall into two general categories: self-interest motivation and altruistic motivation. Empathy based on emotional contagion is considered to be extremely motivating, because the person experiences something very similar to what the empathized being experiences. If an animal trapped is in pain, the empathizer will move quickly to

alleviate the suffering of both. Cognitive empathy is designed to generate an altruistic motivation: when a person empathizes in this way, he tries to understand the other's perspective, to feel the other's subjective experience and to offer help. In order to understand and feel what another being feels and to embrace their goals, it is considered to involve motivation.

With this in mind, empathy should be seen as an internal motivator, as it can be an important factor in predicting a person's willingness to take help. An example might be that empathy can play a strong role in motivating someone to put a bowl of water for a stray dog or to donate to a shelter rescue campaign.

From the perspective of human-animal relationships, Plous (1993) argues that the perception of similarities between humans and animals leads to beneficial results for animals, including a greater perception of the relationship and empathy and an increased desire to protect animal rights. Similarly, Waytz et al. (2010) argue that the tendency to anthropomorphize animals, i.e. the psychological mechanism that involves attributing human characteristics to animals, such as emotions and cognitions, and that, in this sense, involves recognizing our similarities to them, has also been associated with greater concerns for animal welfare. It should be noted that this ability to perceive the similarities between animals and humans occurs despite a general tendency of humans to process and classify information distinctly about animals and humans.

Amiot et al. (2017) investigated the implication of animal identification and solidarity with animals. In this paper, solidarity with animals is defined as the feeling of belonging, psychological attachment and closeness to other animals. This particular dimension of social identification captures its relational side and the concrete roles we play within a group. As solidarity with animals involves considering them closer to them and embracing their perspective and interests, this dimension of identification is expected to predict more positive attitudes towards animals and more prosocial behaviors towards them, as well as increased intentions to engage in collective action on their behalf.

G. Myers (2015) states that the more closely the behavior is related to the experience with an animal, the more likely empathy is to trigger a response. Given the studies carried out in this direction, it can be stated that employment in charities towards animals is supported by empathy as a motivating factor.

Hypothesis 4. It is assumed that there is a correlation between empathy for animals and personality traits.

Tabel 5. Correlations

	extravers ion	courtesy	conscienti ousness	tability_ emotional	autonomy	
Spear animal_ man's empathy	Correlation Coefficient	.045	.356**	.012	-.216*	.139
rho	Sig. (2-tailed)	.633	.000	.895	.019	.135
	N	117	117	117	117	117

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Spearman's Rho correlation testing (Table 5) shows that empathy for animals correlates significantly positively (0.356) with kindness and negatively (-0.216) with emotional stability.

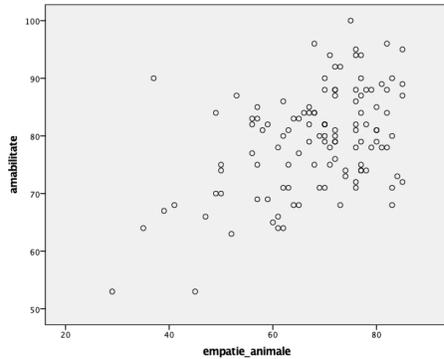


Figure 1. The cloud of points related to empathy for animals and kindness

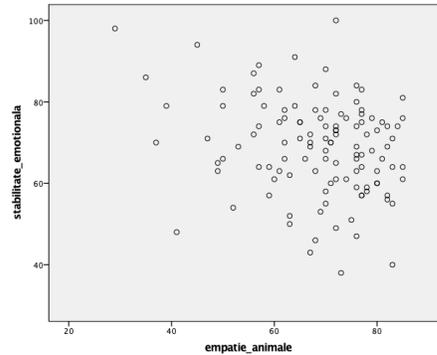


Figure 2. The cloud of points related to empathy for animals and emotional stability

Statistical analysis of the data confirmed the hypothesis that there is a significant correlation between empathy for animals and personality factors. Thus, it was shown that empathy correlates significantly positively with kindness ($p = .000$; ρ (rho) = .356) and significantly negatively with emotional stability ($p = .019$; ρ (rho) = -.216).

Given the nature of the facets of kindness (e.g., altruism, tenderness, trust, compliance), and the components of empathy, the cognitive component (taking a different perspective), the self-centered emotional component (personal suffering), and the other-oriented emotional component (empathic concern), a significantly positive correlation between the two was expected.

According to the literature, of the five dimensions of personality, kindness is the only one that is significantly positively correlated with major aspects of prosocial emotions, namely empathic concern and personal stress. The correlations between agreeableness and empathy are consistently significant and positive (e.g., Graziano, et al., 2007). Kindness has also been linked to prosocial behaviors, such as volunteering to help others in need. Graziano and colleagues (2007) conducted studies in which they found that individuals with a high degree of kindness are more likely to report willingness to offer help than those with a low degree of kindness.

Empirically, Graziano, Habashi et al., 2007 show that kindness is related to dispositional empathy. Empirical research supports the claim that kindness is related to both empathy and the desire to offer help. People with a high degree of kindness report a greater ease in seeing the world through the eyes of others (taking a different perspective) and feeling the suffering of others (empathic concern). Research has shown that these cognitive and emotional processes are related to excessive help, so people with a high level of kindness are expected to experience the kind of empathic processes that motivate prosocial behavior (e.g., helping others, even strangers and animals). (Graziano, Habashi, 2015).

In addition, both Cheng et al. (2009) and DeYongng et al. (2010) showed that both agreeableness and empathic concern are based on neurophysiological mechanisms, including mirror neurons. For example, when an individual observes someone who is experiencing an emotion, his brain responds similarly, almost as if experiencing the same stimulus (Eres et al., 2015). Mirror neurons are strongly connected to the brain to automatically respond to the emotions

of others, as in the case of sympathetic crying or contagious yawning (Goldman, 2014). However, research discussing whether or not mirror neurons respond in the same way when we perceive emotions in animals is limited but the initial evidence is promising (Myers, 2007).

The strong correlation between kindness and empathy is also supported by definitions of kindness that often include a predisposition to empathic and empathy-like responses, so kind people are considered sympathetic, warm, caring, and empathetic.

In addition to the significantly positive correlation of empathy with kindness, the data also indicate a negative correlation of empathy with emotional stability.

A study with similar results is the one conducted by Todd A. Mooradian and collaborators, "Dispositional Empathy and the Hierarchical Structure of Personality", published in 2011 in "The American Journal of Psychology". The study was based on a sample of 245 subjects (128 men and 117 women), and the results obtained indicated a significantly positive correlation of empathy with both kindness and neuroticism.

A low level of emotional stability is usually characterized as a tendency to manifest rapid, unexpected, and intense emotional reactions, as well as anxiety, stress, and depression. When a person is faced with a situation in which he observes a suffering animal and in need of help, an increased emotional reactivity can explain the increased level of empathy towards him, resulting from both the desire to reduce personal and animal suffering.

Thus, increased emotional reactivity and a high level of empathy can lead to the desire to constantly provide help to needy animals, and this increases stress, anxiety and even feelings of helplessness and guilt, when situations exceed the resources of help of the empathetic person.

It can be said that these correlations of empathy are due to the fact that both dimensions target the emotional side of a person.

Hypothesis 5. It is assumed that there is a correlation between empathy for animals and attachment styles.

Table 6. Correlations

			secure_attac hment_style	avoidance_ style_style	style_ attachment_angles
Spearman's rho	animal empathy	Correlation Coefficient	-.055	-.111	-.093
		Sig. (2-tailed)	.554	.235	.317
		N	117	117	117

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Statistical analysis of the data shows that there is no correlation between empathy for animals and attachment styles, therefore the decision is suspended.

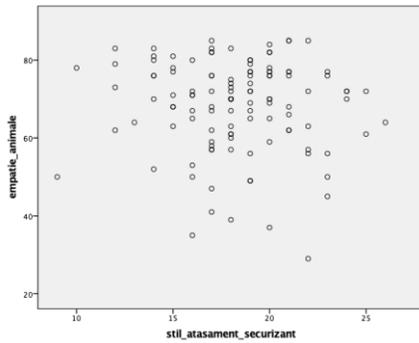


Figure 3. Cloud of attachment points and empathy for animals.

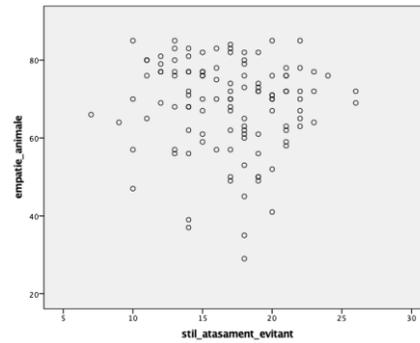


Figure 4. Point cloud related to avoidant attachment and empathy for animals.

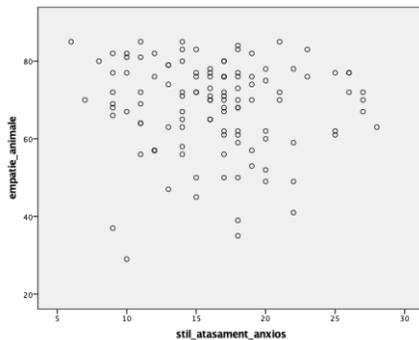


Figure 5. Point cloud related to anxious attachment and empathy for animals.

Conclusions

In the present study, having as main objective the identification of the relationship between personality factors and empathy towards animals, results were obtained according to the literature.

In the first instance, it was investigated whether gender and personality traits can be considered as good predictors of empathy for animals. Thus, differences were highlighted as women are kinder and more empathetic with animals than men, but obtained lower scores on extraversion and emotional stability. Therefore, it can be considered that personality traits conforming to the gender stereotype, influence empathy towards animals.

It has also been shown that pet owners, unlike those who do not own, have a generalized level of empathy for animals, this highlighting the influence of the direct human-animal relationship. The results also indicated that empathy is a motivating factor, so those who empathize with animals tend to do charity for needy animals.

Following the presumption that there is a correlation between empathy for animals and personality factors, it was found that it correlates significantly positively with agreeableness and significantly negatively with emotional stability. These results strengthen the evidence of the first hypothesis, in which a significant difference of empathy was observed according to gender, women proving more empathetic and kind but less emotionally stable than men.

Although the study aimed to highlight a correlation between attachment styles and empathy for animals, the results did not confirm the working hypothesis. This may be due to the size of the sample, thus recommending, for further research in the field, the use of a larger sample than the current one consisting of 117 subjects.

Following these findings, the limitations of the research should also be mentioned and considered. Thus, it should be noted that the sample is not homogeneous in terms of variables such as gender, number of pet owners and non-owners and the number of those who do charity and those who do not.

References

- [1] Allport, G. W. (1931), What is a trait of personality?, *Journal of Abnormal and Social Psychology*, 25, 368-372.
- [2] Allport, G. W. (1937), *Personality: A psychobiological interpretation*, NY: Holt, New York.
- [3] Allport, G. W., (1961), *Pattern and growth in personality*, NY: Holt, New York.
- [4] Archer, J. (1997). Why do people love their pets? *Evolution and human behaviour*. 18, 237-259.
- [5] Ascione F.R., (2001). Animal abuse and youth violence. *Juvenile Justice Bulletin*.
- [6] Ascione F.R. (2005). *Children and animals, exploring the roots of kindness and cruelty*. Purdue University Press.
- [7] Bartholomew, K., & Shaver, P.R. (1998). Methods of assessing adult attachment: Do they converge? In J.A. Simpson & W.S. Rholes (eds.), pp. 25-45. *Attachment theory and close relationships*. Guilford Press: New York.
- [8] Beck L., Madresh, E.A., (2008), Romantic partners and four-legged friends: An extension of attachment theory to relationships with pets. *Anthrozoos*, 21, 43- 56.
- [9] Beck, A., Katcher, A. (2003). Future directions in human-animal bond research. *American Behavioural Scientist*, 47, 79-93.
- [10] Bowlby, J., (1969), *Attachment and Loss, Vol. 1: Attachment*. Hogarth Press: London.
- [11] Bowlby, J. (1973). *Attachment and Loss, Vol. 2: Separation anxiety and anger*. Hogarth Press: London.
- [12] Bowlby, J. (1980). *Attachment and Loss, Vol. 3: Loss, sadness and depression*. Hogarth Press: London.
- [13] Bowlby, R. (2004). *Fifty years of attachment theory*. Middlesex: Karnac Books.
- [14] Bretherton, I. (1985). Attachment theory retrospect and prospect. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research*. Monographs of the society for research in child development, 50, 3-37.
- [15] Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth, *Developmental Psychology*, 28, 759-775.
- [16] Carey S, (1987), *Conceptual change in childhood*. Cambridge, MA: MIT Press.
- [17] Carr, S., (2012), *Attachment in Sport, Exercise, and Wellness*. Routledge: Oxon.
- [18] Cattell, R. B., (1947), Confirmation and clarification of primary personality factors, *Psychometrika*, 12, 197-220.
- [19] Cattell, R. B., (1950), *Personality: A systematic theoretical and factual study*, NY:McGraw Hill, New York.
- [20] Chandler, C. K., (2005/2012), *Animal assisted therapy in counselling*. Routledge: New York.

- [21] Clark, A. J., (2007), *Empathy in Counseling and Psychotherapy. Perspectives and Practices*, Lawrence Erlbaum Associates , Publishers, Mahwah, New Jersey.
- [22] Cobb, R.J., Davila, J., (2009), *Internal Working Models and Change*. In J.H. Obegi and E. Berant (Eds.), *Attachment Theory and Research in Clinical Work with Adults* (pp.209-233). Guilford Press: New York.
- [23] Berant (Eds.), *Attachment Theory and Research in Clinical Work with Adults* (pp.209-233). Guilford Press: New York.
- [24] Costa, P. J., Terracciano, A., McCrae R. R., (2001), Gender differences Personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology*, 81 (2), 322-331. doi: 10.1037/0022-3514.81.2.322
- [25] Costa, P. T., McCrae, R. R., (1985), *The NEO personality inventory manual*, FL: Psychological Assessment Resources, Odessa.
- [26] Costa, P. T., McCrae, R. R., (1990), Personality disorders and the five-factor model of personality, *Journal of Personality Disorders*, 4, 362-371.
- [27] Costa, P. T., McCrae, R. R., (1992), Revised NEO Personality Inventory (NEO-PI-R) and EO-Five-Factor (NEO-FFI) professional Manual, FL: Psychological Assessment Resources, Odessa.
- [28] Daly B., Morton L.L., (2009), Empathic differences in adults as a function of childhood and adult pet ownership and pet type. *Anthrozoös*, 22 (4), 371-382.
- [29] Dimitriu, O., (2007), *Empathy in psychotherapy*, 5th International Conference on Applied Psychology, Extensive Communications, Ed. Eurobit, Bucharest.
- [30] Ellingsen K., Zanella A.J., Bjerkås E., Indrebø A., (2010), The relationship between empathy, perception of pain and attitudes toward pets among Norwegian dog owners. *Anthrozoös*, 23 (3), 231-243.
- [31] Epley, N., Akalis, S., Waytz, A., Cacioppo, J. T., (2008), Creating social connection through inferential reproduction: Loneliness and perceived agency in gadgets, gods, and greyhounds. *Psychological Science*, 19, 114–120. <http://dx.doi.org/10.1111/j.1467-9280.2008.02056.x>
- [32] Eysenck, H. J., (1953), *The Structure of human personality*, UK: Methuen, London.
- [33] Goldman, J., (2014), *Mirror Neurons are Essential, But not in the Way You Think*, (<http://nautil.us/blog/mirror-neurons-are-essential-but-not-in-the-way-you-think> accesat la 17.03.2020)
- [34] Goldsmith, D.F., Oppenheim, D., Wanlass, J., (2004), Separation and Reunification: Using attachment theory and research to inform decisions affecting placements of children in foster care. *Juvenile and Family Court Journal*, 1-14
- [35] Graziano, W. G., Habashi, M. M., (2015), Searching for the prosocial personality, *Oxford library of psychology. The Oxford handbook of prosocial behavior*, p. 231–255, Oxford University, p. 231–255
- [36] Graziano, W., Habashi, M., Sheese, B., Tobin, R., (2007), Agreeableness, Empathy, and Helping: A Person × Situation Perspective, *Journal of personality and social psychology*, Vol. 93, Nr.4, Pag 583-599, accesat online în data de 17.02.2020 pe 10.1037/0022-3514.93.4.583.
- [37] Hazan, C., Shaver, P.R., (1994), Attachment as an Organisational Framework for Research on Close Relationships. *Psychological Inquiry*, 5, 1, 1-22.
- [38] Hazen, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524.
- [39] Kahn, P.H., (1997), Developmental psychology and the biophilia hypothesis: children's affiliation with nature. *Developmental review*, 17, 1-61.
- [40] Kahn, P.H., (1997), Developmental psychology and the biophilia hypothesis: children's affiliation with nature. *Developmental review*, 17, 1-61.

- [41] Kurdek, L.A., (2008), Pet dogs as attachment figures. *Journal of social and personal relationships*, 25, 247-266.
- [42] Kwong, M.J., Bartholomew, K., (2011), “Not just a dog”: an attachment perspective on relationships with assistance dogs. *Attachment & Human Development*, 13, 5, 421-436.
- [43] Laurent E.L., (2000), Children, “insects” and play in Japan. In Podberscek A.L., Paul E.S. and Serpell J.A., *Companion animals and us*, 61-89. Cambridge: Cambridge University Press.
- [44] Myers, G., (2007), *The Significance of Children and Animals: Social Development and Our Connections to Other Species*, Purdue University Press, West Lafayette.
- [45] Odendaal, J.S.J., (2000), Animal assisted therapy - magic or medicine? *Journal of Psychosomatic Research*, 49, 275-280.
- [46] Odendaal, J.S.J., Meintjes, R.A., (2003), Neurophysiological correlates of affiliative behaviour between humans and dogs. *The Veterinary Journal*, 165, 296-301.
- [47] Pallotta N.R. (2008). Origin of adult animal rights lifestyle in childhood responsiveness to animal suffering. *Society and animals*, 16, 149-170.
- [48] Parish-Plass, N. (2008). Animal assisted therapy with children suffering from insecure attachment due to abuse and neglect: a method to lower the risk of intergenerational transmission of abuse. *Clinical Child Psychology and Psychiatry*, 13, 7-31.
- [49] Popescu, G. F., Omer, I., (2011), Stresul și dimensiunile de personalitate, *Revista de psihologie*, vol. 57, nr. 1, p. 56-69, București. Press. <https://doi.org/10.1093/oxfordhb/9780195399813.013.017>
- [50] Rahmani, S., Lavasani, M.G., (2012), Gender Differences in Five Factor Model of Personality and Sensation Seeking. *Procedia - Social and Behavioral Sciences*, accesat online in data de 17.03.2020 pe <https://doi.org/10.1016/j.sbspro.2012.05.587>
- [51] Rossier, J., Meyer de Stadelhofen, F., Berthoud, S., (2004), Hierarchical structures of the NEO PI-R and of the 16PF5, *European Journal of Psychological Assessment*, 20, 27-38.
- [52] Sable, P., (1995), Pets, attachment and wellbeing across the life cycle. *Social Work*, 40, 334-341.
- [53] Sable, P. (2012). The Pet Connection: An Attachment Perspective. *Clinical Social Work Journal*, 41, 1, 93-99.
- [54] Serpell, J. A., (2002), Anthropomorphism and anthropomorphic selection— Beyond the “cute response.”, *Society & Animals*, 10, 437-454. <http://dx.doi.org/10.1163/156853002320936926>
- [55] Signal T.D., Tailor N., (2007), Attitude to animals and empathy: comparing animal protection and general community samples. *Anthrozoös*, 20 (2), 125-130.
- [56] Zilcha, S., Mikulincer, M., (2007), Same but different: A therapeutic model for animal assisted therapy from an attachment perspective. Unpublished Manuscript. Bar- Ilan University, Ramat Gan, Israel.