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RESEARCH ARTICLE

COMPARISON OF HUMAN-TO-HUMAN AND HUMAN-TO-ANIMAL ATTACHMENT AND ITS CONNECTION WITH LIFE SATISFACTION

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ABSTRACT

The aim of our research was to find a connection between human-to-human attachment and human-to-animal attachment, to compare groups of animal owners and non-owners in terms of human attachment, the connection of human-to-animal attachment and life satisfaction, and the comparison of animal owners with non-owners in terms of life satisfaction. We used the ECR scale to measure the human-to-human attachment, the PAQ questionnaire for the human-to-animal attachment, and the Fragebogen zur Lebenszufriedenheit (FLZ, Life Satisfaction Questionnaire) to measure life satisfaction. The research sample consisted of 240 participants, of which 130 were animal owners (dog or cat) and 110 participants, who did not own an animal. The results confirmed that there is a connection between human-to-human attachment and human-to-animal attachment, and between human-to-animal attachment and life satisfaction. There is also a difference between the group of animal owners and the group of non-owners in life satisfaction.

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INTRODUCTION

The human-to-human attachment is a relatively well-researched area, that Bowlby (1973 in Mikulincer, Shaver, 2007), Hašto (2005), Mikulincer, Shaver (2007) researched with a focus on children, and Hazan and Shaver (1987 in Mikulincer, Shaver, 2007), Bartholomew and Horowitz (1991), Mikulincer (1998) with a focus on adults, along with many other authors, in contrast to the human-to-animal attachment, which is a relatively unexplored area compared to the human-to-human attachment. The term attachment is defined by the following authors in different ways. Brisch (2011) translates it as an emotional or relationship attachment, another author Hašto (2005) defines it as an emotional bond. Fonagy and Target (2005) talk about attachment theory.

Bowlby (1973 in Mikulincer, Shaver, 2007) defines attachment as a bonding system that is an innate regulatory device that affects personality and interpersonal behavior. Achieving closeness is the result of protection and is perceived as a sense of relief and safety (Mikulincer, Shaver 2007). The basic prerequisite of attachment is that the emotional experience of individuals leads to types of attachment and specifically to a certain type of attachment, namely avoidant attachment or anxious attachment (Hubinská, Wei, Vogel, Tsun-Yao Ku, Zakalik 2005, Hawkins, Williams, 2017, Hazan and Shaver (1987 in Mikulincer, Shaver, 2007, Adamove, 2017, Brennan, Clark and Shaver, 1998 in Wright, Clark, Rock, Coventry, 2017).

Attachment to animals: Franklin (1999 in Blouin, 2012) defines pets as unique beings cared for by their owners who treat them as their own children (Blouin, 2012, Kurdek, 2008). Animals can provide the characteristics of a secure relationship with individuals who can then establish an emotional bond with pets that provide them with aspects of emotional attachment, such as affection, a special kind of friendship, and can meet the preconditions for a relationship in terms of seeking and maintaining close relationships, a

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refuge and a base that is observable and in a human-to-human attachment (Beck, Madresh, 2008, Carr, Rockett, 2017). The attachment to a pet can function as a safe haven, the pet providing the human with safety and stability from which people can explore their environment. In addition, pets can help regulate people's emotions, because they can trigger and respond to behaviour connected to attachment (Hawkins, Williams, 2017, Kurdek, 2008). The human-to-animal attachment is different from the human-to-human attachment in the degree of closeness, commitment and conflict. Humans, in close interpersonal relationships, as well as in relation to an animal, create an attachment that can be along the dimensions of avoidance and anxiety. The human-to-animal attachment is related to expectations, emotions and behavior (Zilcha-Mano, Mikulincer, Shaver, 2011, Sable, 1995, Beck and Madresh, 2008 in Smolkovic, Fajfar, Mlinaric, 2012).

Comparison of human-to-human and human-to-animal attachment: Zilcha-Mano, Mikulincer and Shaver (2011) compared in their study human-to-human and human-to-animal attachment. The results show that the anxious attachment to animals correlates slightly positively with the anxious and avoidant attachment to humans. Furthermore, the avoidant attachment to animals correlates positively with the anxious attachment to humans but has no connection with the avoidant attachment to humans. ZilchaMano, Mikulincer and Shaver (2012) found that the anxious attachment to humans positively correlates with the anxious attachment to animals, and that the avoidant attachment to humans positively correlates with the avoidant attachment to animals.

Life satisfaction: Diener, Suha, Lucase and Smith (1999) define life satisfaction as one of the three components of subjective personal well-being. Likewise, Blatný et al. (2005) regards life satisfaction as one of the components of personal well-being. In the Anglo-Saxon language area, life satisfaction is also considered to be a part of subjective personal well-being (Fahrenberg, Myrtek, Schumacher, Brähler 2001). Dierer (1999) defines life satisfaction as a cognitive and global assessment of one's own life, implying that life satisfaction encompasses all important areas of the individual that are subjectively important to him. Fahrenberg, Myrtek, Schumacher, Brähler (2001) claim that life satisfaction is a vaguely defined concept (Zuffianda, Martí-Vilarb, López-Pérez, 2018, Lucas, Donnellan, 2007). Sirgy (2012) says that life satisfaction is more than just a feeling of happiness and joy, because it includes not only psychological happiness, but also feelings of satisfaction and fulfillment that make life good.

Life satisfaction, ownership of an animal and attachment Singh, Shailendra and Pragyendu (2016) compared in their research animal owners and people who did not own a pet for the level of life satisfaction. Their research results show that pet owners have a higher life satisfaction score, making them more satisfied with their own lives than people who do not own a pet. Guarnieri, Smorti and Tani (2015) found that attachment to a partner is a strong predictor of life satisfaction, but, on the contrary, life satisfaction is not a predictor of attachment to a partner. Avoidant attachment is negatively correlated with life satisfaction, which manifests itself in romantic relationships as an individual's desire to limit intimacy and remain emotionally independent. Also, the anxious attachment is negatively connected with life

satisfaction, which in relation to a romantic partner manifests itself as an individual's fear that his partner would leave him. Haddadi, Bonab (2011) found that people with a certain attachment type have higher life satisfaction scores than people with avoidant or anxious attachment, and also found that the attachment type can predict life satisfaction. Comparison of attachment to humans and to animals was researched by several experts (Sable, 1995, Zilcha-Mano, Mikulincer, Shaver, 2011, 2012, Smolkovic, Fajfar and Mlinaric (2012) and based on their results we formulated our first research question:

H: Is there a statistically significant link in the type of human-to-human attachment for the dimension of avoidance and anxiety and in the type of human-to-pet attachment for the dimension of avoidance and anxiety?

Haddadi and Bonab (2011) and Guarnieri, Smorti. and Tani (2015) investigated the connection between human-to-human attachment and life satisfaction and found that attachment is a predictor of life satisfaction. While investigating the connection of human-to-animal attachment and life satisfaction, we could not find any studies which investigated this topic, nor any studies comparing pet owners with non-owners in levels of life satisfaction. Based on this, we have formulated RQ 1 to RQ 3.

RQ 1: Is there a statistically significant link between the avoidant and anxious attachment to animals and life satisfaction?

RQ 2: Is there a statistically significant difference between a group of animal owners and a group of non-owners in overall life satisfaction?

RQ 3: Is there a statistically significant difference between a group of animal owners and nonowners in the type of human-to-human attachment?

METHODS

In the methods part we will deal with the characteristics of the research sample, description of the tools used for measuring variables and realization of research.

Research sample: The sample consisted of 240 participants aged 20-45, the average age of all participants was 28,63, of which 80 were men and 160 were women. The sample in table 1 was divided into two groups, the first group consisted of 130 animal owners, of which 38 were men and 93 were women aged 20-45 with the average age of 29,64. The second group consisted of 110 participants, who did not own a pet, of which 42 were men and 68 were women aged 20-45 and the average age was 27,43.

Participants were selected by deliberate selection, the condition being age 20-30, as well as being a university student or have completed at least a first-level university degree. In addition, it was a condition for the group of animal owners that they had at least one animal (dog or cat) at the time of completing the questionnaire, and for the group of non-owners never to have owned or lived in a household with a dog or a cat, nor to own another animal at the time of completing the questionnaire.

Data collection took place in the months of September 2019 to January 2020. Participants took part in data collection voluntarily. Participation and individual data were anonymous. The group of people who did not own a pet consisted of students of the bachelor's degree from the Slovak Technical University, the master's degree of the University of Ss. Cyril and Methodius in Trnava and Comenius University in Bratislava.

Research methods: As for our research methods, we chose the following questionnaires: Experiences In Close Relationships (ECR) to measure human-to-human attachment, Pet Attachment Questionnaire (PAQ) to measure human-to-pet attachment, and to measure life satisfaction, we chose the Fragebogen zur Lebenszufriedenheit (FLZ, Life Satisfaction Questionnaire).

Experiences in Close Relationships scale (ECR) (Brennan, Clark, Shaver, 1998 in Le bych, Pospíšilíková, 2012): The ECR scale identifies the type of human-to-human attachment for the dimension of avoidance and anxiety. The method consists of 36 statements, the respondent evaluates individual statements on a 7-point Likert scale. The questionnaire was translated and standardized for the Czech population by Le bych and Pospíšilík in 2012 and Cronbach for avoidance range is 0,82 and anxiety 0,83. We chose the ECR scale in order to determine the human-to-human attachment.

Pet Attachment Questionnaire (PAQ) (Zilcha-Mano, Mikulincer, Shaver, 2011): The PAQ was designed to determine the type of human-to-animal attachment on the dimensions of avoidance and anxiety. The questionnaire contains 26 statements. The respondent expresses the degree of agreement or disagreement on the 7-point Likert scale. Cronbach is 0,86 for the avoidance subscale and 0,89 for the anxiety subscale. The questionnaire was translated individually by two translators from English to Slovak and then by a third translator from Slovak to English, thus guaranteeing reliability for the Slovak population. 2.3 Research plan

To obtain data for our research, to verify our hypotheses and to answer the research hypotheses, we conducted correlation-comparative research. Respondents were approached in person, using the procedures described in the research file, and explained the purpose and aim of the research and instructions for completing the questionnaires. The answers to the questions were obtained using the pen and paper method. Since the total number of questions in the questionnaires was 171, and the time it took to fill in the questionnaires was approximately 30 minutes, many of the respondents refused to complete the questionnaires or did not complete them until the end. Some respondents found the questions too intricately constructed.

Procedure: Using the SPSS 23 program, we processed the numerical data obtained using the applied methods and received answers to our research questions and hypotheses. We used statistical methods of correlation analysis by means of which we investigated relationships between human-to-human attachment and human-to-pet attachment and the relationship between the type of human-to-pet attachment and life satisfaction in the group of animal owners.

Another method used was a comparative analysis by which we compared two groups, which were animal owners and people who did not own a pet in terms of overall life satisfaction score and in terms of the type of human-to-human attachment.

RESULTS

When processing the results, we did not confirm the normal distribution of the research sample. By descriptive analysis we calculated the minimum and maximum values for the variables of human-to-human attachment, human-to-pet attachment, life satisfaction and personality traits. The results of the descriptive analysis are shown in Table 2.

H: There is a statistically significant link between the human-to-human type of attachment for the dimension of avoidance and anxiety and the type of human-to-animal attachment for the dimension of avoidance and anxiety in a group of animal owners.

Based on the analysis in table 3, we do not accept hypothesis H, because we recorded a statistically significant, slightly strong relationship only between the avoidant human-to-human attachment and the anxious human-to-animal attachment ($r = 0,199$ and sig. $<0,05$), between anxious human-to-human attachment and anxious human-to-animal attachment a statistically significant moderate relationship ($r = 0,467$ and sig. $<0,05$) was confirmed. There was no statistically significant relationship between the other types of human-to-human and human-to-animal attachment. Based on the results of the Spearman correlation test, we do not accept hypothesis H.

RQ 1: Is there a statistically significant link between the avoidant and anxious attachment to animals and life satisfaction?

Analyzing research question 1 in table 4, we found that there was a statistically significant, slightly strong, negative link between anxious human-to-pet attachment and life satisfaction ($r = -0,230$ and sig. $<0,05$). We did not notice a statistically significant link between avoidant attachment and life satisfaction.

RQ 2: Is there a statistically significant difference between a group of animal owners and a group of people who do not own a pet in overall life satisfaction?

In the group of animal owners (table 5), the number of respondents was ($N = 130$), the average ranking (MR = 134,65) and the sum of order (SR = 17505,00). In the group of nonowners the number of respondents was ($N = 110$), average ranking (MR = 103,77) and the sum of order (11415,00). Based on the Mann-Whitney U test result in table 6, statistical significance was confirmed (sig. $<0,05$) and based on the result, we answered our research question that there is a difference between the groups in overall life satisfaction.

RQ 3: Is there a statistically significant difference between a group of pet owners and non-owners in the type of human-to-human attachment?

Table 7 is comparison of the group of pet owners and non-owners in terms of the type of attachment. In the group of pet owners, the number of respondents for avoidant attachment

Table 1 Distribution of the sample by sex and age

| Group | Number of people | | Age | |
|---------------|------------------|-----|---------|-------|
| Animal owners | men | 38 | minimum | 25 |
| | women | 93 | maximum | 30 |
| | total | 130 | average | 29,64 |
| Non-owners | men | 42 | minimum | 25 |
| | women | 68 | maximum | 30 |
| | total | 110 | average | 27,43 |
| Total | men | 80 | minimum | 25 |
| | women | 160 | maximum | 30 |
| | total | 240 | average | 28,63 |

Table 2. Descriptive analysis

| | Number | Minimum | Maximum | Average | Standard deviation |
|-------------------------------------|--------|---------|---------|---------|--------------------|
| Avoidant human-to-animal attachment | 130 | 13,00 | 49,00 | 21,1692 | 6,82351 |
| Anxious human-to-animal attachment | 130 | 14,00 | 79,00 | 39,4308 | 14,18589 |
| Avoidant human-to-human attachment | 240 | 21,00 | 102,00 | 67,1833 | 18,77459 |
| Anxious human-to-human attachment | 240 | 25,00 | 112,00 | 60,1417 | 18,58388 |

(Source, authors of the work)

Table 3. Spearman correlation - connection between the type of human-to-human and humanto-animal attachment

| | | |
|------------------------------------|-------------------------------------|-------|
| Avoidant human-to-human attachment | Avoidant human-to-animal attachment | |
| | r | -,128 |
| | p | ,146 |
| Avoidant human-to-human attachment | Anxious human-to-animal attachment | |
| | r | ,199 |
| | p | ,023 |
| Anxious human-to-human attachment | Avoidant human-to-animal attachment | |
| | r | -,039 |
| | p | ,662 |
| Anxious human-to-human attachment | Anxious human-to-animal attachment | |
| | r | ,467 |
| | p | ,000 |
| | N | 130 |

Table 4. Spearman correlation - connection between the type of human-to-pet attachment and life satisfaction

| | | |
|------------------------------------|-------------------|-------|
| Avoidant human-to-human attachment | Life satisfaction | |
| | r p | -,044 |
| | N | ,616 |
| Anxious human-to-pet attachment | Life satisfaction | |
| | r p | -,230 |
| | N | ,009 |
| | N | 130 |

Table 5. Descriptive table - comparison of the group of animal owners and the group of non owners in terms of overall life satisfaction

| | Group | Number of people | Average order | The sum of order |
|---------------------------|--------------|------------------|---------------|------------------|
| Overall life satisfaction | Animal owner | 130 | 134,65 | 17505,00 |
| | Non-owner | 110 | 103,77 | 11415,00 |

Table 6. Mann-Whitney U test - comparison of overall life satisfaction in groups of owners and non-owners of animals

| | |
|----------------|---------------------------|
| | Overall life satisfaction |
| Mann-Whitney U | 5310,000 |
| Significance | ,001 |

Table 7 Descriptive table - comparison of the group of pet owners and non-owners in terms of the type of attachment

| Type of attachment | Group | Number of people | Average order | The sum of order |
|-----------------------------------|-----------|------------------|---------------|------------------|
| Avoidant human-tohuman attachment | Pet owner | 130 | 137,24 | 17841,00 |
| | Non-owner | 110 | 100,72 | 11079,00 |
| Anxious human-to-pet attachment | Pet owner | 130 | 128,90 | 16757,00 |
| | Non-owner | 110 | 110,57 | 12163,00 |

Table 8. Mann-Whitney U test - comparison of the attachment type in groups of owners and non-owners of animals

| | Avoidant human-to-human attachment | Anxious human-to-human attachment |
|----------------|------------------------------------|-----------------------------------|
| Mann-Whitney U | 4974,000 | 6058,000 |
| Significance | ,000 | ,041 |

Based on the Mann-Whitney U test result in table

was (N = 130), the average ranking (MR = 134,65) and the sum of order (SR = 17505,00). In the group of non-owners, the number of respondents was (N = 110), average ranking (MR = 103,77) and the sum of order (11415,00). In the group of animal owners, the number of respondents for anxious attachment was (N = 130), the average ranking (MR = 128,90) and the sum of order (SR = 16757,00). In the group of non-owners the number of respondents was (N = 110), average ranking (MR = 110,57) and the sum of order (12163,00). Based on the Mann-Whitney U test result in table 8, statistical significance was confirmed (sig. <0,05). Based on the result, we can argue that there is a statistically significant difference between the group of animal owners and the group of non-owners.

DISCUSSION

Interpretation of results: In our work we dealt with variables such as human-to-human attachment, human-to-animal attachment and life satisfaction. Our aim was to find whether there is a statistically significant relationship for the dimension of avoidant and anxious type of attachment in a group of animal owners, as well as to find out whether there is a significant statistical difference between the groups of animal owners and non-owners in overall life satisfaction. In hypothesis, we investigated whether there was a statistically significant link between the type of human-to-human and human-to-animal attachment for the dimension of avoidance and anxiety in a group of animal owners. We tested the hypothesis with Spearman's non-parametric correlation test. We did not accept the hypothesis based on the results of the Spearman correlation test. Between the type of human-to-human and human-to-pet attachment, we found a slightly positive connection between the avoidant human-to-human attachment and the anxious human-to-animal attachment (sig. <0,05 and $r = 0,199$). The second accepted relationship is that between the type of human-to-human and human-to-animal attachment, there is a moderate positive link between the human-to-human anxious attachment and the human-to-animal anxious attachment (sig. <0,05 and $r = 0,467$). There was no statistically significant link between the avoidant human-to-human attachment and the avoidant human-to-animal attachment (sig. > 0,05), nor between the anxious human-to-human and the anxious human-to-animal attachment (sig. > 0,05). The results of the statistical analysis of the first confirmed link show that there is a statistically positive slight link between the avoidant human-to-human attachment and the anxious human-to-pet attachment, so the more the individual avoids and distrusts other people, the more they tend to tie anxiously to their pet, which is associated with the fear that the pet does not show them as much affection and devotion as they would like and with the fear of losing the pet. The second confirmed connection between the anxious human-to-human and human-to-pet attachment shows that there is a statistically significant,

moderate, positive link between the anxious human-to-human and the anxious human-to-pet attachment, which means that if an individual has an anxious attachment to another person, they have the tendency to create an anxious attachment to their pet. Furthermore, our results show that the avoidant human-to-human attachment has no connection with the avoidant human-to-pet attachment, and the anxious human-to-human attachment also has no connection to the avoidant human-to-pet attachment. Zilcha-Mano, Mikulincer and Shaver (2011) also compared in their study the type of human-to-human and animal-to-animal attachment on a sample of 212 participants who were 16-57 years old. The results of their research indicate that the avoidant human-to-human attachment correlates slightly positively with the human-to-animal anxious attachment, and also that the human-to-human anxious attachment slightly positively correlates with the human-to-animal anxious attachment. Research results by Zilcha-Mano, Mikulincer and Shaver (2011) show that anxious human-to-human attachment correlates positively with the human-to-animal avoidant attachment. When we compare the results of our research with those of Zilcha-Mano, Mikulincer and Shaver (2011), we find a slight positive correlation between the avoidant human-to-human attachment and the anxious human-to-animal attachment, in our work specifically to the dog and cat.

In our research, there was a moderate positive link between anxious human-to-human attachment and anxious human-to-pet attachment, and the research by Zilcha-Mano, Mikulincer and Shaver (2011) confirmed only a slight link between these two types of relationship. In our results, unlike in the results of the above-mentioned authors, the connection between the anxious human-to-human attachment and the avoidant human-to-pet attachment has not been confirmed. The differences between our research and that of Zilcha-Mano, Mikulincer and Shaver (2011) could be due to different sample sizes, as Zilcha-Mano, Mikulincer and Shaver (2011) had 212 participants in their research sample, and our research sample had 130 participants. The difference in the results of Zilcha-Mano, Mikulincer and Shaver (2011) and our research could also be due to the different age of participants. The age range in the research of the mentioned authors was 16-57 and, in our research, the age range was 20-45. Another reason for the difference in the results could be that Zilcha-Mano, Mikulincer and Shaver (2011) investigated the attachment of humans to several species of pets, while in our research, we focused on finding the human-to-pet attachment. The second research that compared the type of human-to-human and animal-to-animal attachment was that of Zilcha-Mano, Mikulincer and Shaver (2012), which compared the types of human-to-human and animal-to-animal attachment on a sample of 120 participants, aged 18 to 67. The results of their research show that the anxious human-to-human attachment positively correlates with the anxious human-to-animal attachment and that the avoidant human-to-human attachment positively correlates with the avoidant human-to-animal attachment. Consistency in our research results with those of Zilcha-Mano, Mikulincer and Shaver (2012) is a confirmation of the positive connection between the anxious human-to-human attachment and the anxious human-to-animal attachment in our research. The difference between our research and that of Zilcha-Mano, Mikulincer and Shaver (2011) is related to the avoidant human-to-human attachment and the avoidant human-to-

animal attachment. Research results of Zilcha-Mano, Mikulincer and Shaver (2012) have shown a statistically significant link between avoidant human-to-human attachment and avoidant human-to-animal attachment. In our research, this association has not been confirmed as statistically significant. The difference between the results of our research and those of Zilcha-Mano, Mikulincer and Shaver (2012), as with Zilcha-Mano, Mikulincer, and Shaver (2011), could have occurred in the different age distribution of the research sample focused on animals. In research of Zilcha-Mano, Mikulincer and Shaver (2011), Zilcha-Mano, Mikulincer and Shaver (2012), as in our research, the ECR scale was used to determine the human-to-human attachment, and to determine the human-to-animal attachment, the PAQ questionnaire was used.

In our first research question, we investigated whether there was a statistically significant link between the human-to-pet attachment and life satisfaction. We tested the research question with Spearman's non-parametric correlation test and the results show that there is a statistically significant, slight negative association ($r = -0,230$ and $\text{sig.} < 0,05$) between anxious human-to-pet attachment and life satisfaction, which means that the stronger the anxious attachment to a pet, the less satisfied is an individual with their life. The association between avoidant attachment and life satisfaction was not statistically significant ($\text{sig.} 0,05$), indicating that there is no relationship between avoidant attachment and life satisfaction. In their research, Zilcha-Mano, Mikulincer and Shaver (2011) investigated the connection between mental health, consisting of mental exertion and well-being, one of the components being life satisfaction, and the type of human-to-animal attachment. The variables were measured by the MHI and PAQ questionnaires and the research was carried out on a sample of 212 participants. The results of the research show that the anxious attachment moderately, negatively correlates with personal well-being. The correlation between avoidant attachment and personal well-being has not shown a statistically significant connection. The difference between the research in our research and the result of the research Zilcha-Mano, Mikulincer and Shaver (2011) is in the measured variable, since in the abovementioned research, the link between personal well-being and the type of human-to-animal attachment was evaluated. In our research, we focused specifically on the component of personal well-being, namely life satisfaction, and ascertained its connection with the type of human-to-animal attachment. Gauarnieri, Smorti and Tani (2015) in their research on a sample of 707 participants aged 18 to 25 found that anxious attachment negatively correlates with life satisfaction. We compare these findings with our first research question based on the outcome of our hypothesis, which showed a statistically significant correlation between anxious human-to-human attachment and anxious human-to-pet attachment. In research question 2, we investigated whether there was a statistically significant difference in overall life satisfaction between the group of animal owners and the group of non-owners. We tested the research question with the Mann-Whitney U test and the results show that there is a statistically significant difference ($\text{sig.} < 0,5$) in overall life satisfaction between the group of pet owners and the group of non-owners. The average ranking value in the group of pet owners was ($\text{MR} = 134,65$), and the average order value in the group of nonowners was ($\text{MR} = 103,77$). Based on the average ranking values in our research sample,

we claim that animal owners are happier with their lives than people who do not own a pet. Our results are consistent with those of Singh, Shailendra and Pragyend (2016), who compared the overall life satisfaction of animal owners and non-owners. The results of their research show that the group of animal owners achieved higher scores in life satisfaction than people who do not own a dog or cat. The research sample consisted of 100 participants who were grouped according to dog or cat ownership. A group of dog or cat owners ($N = 50$) and a group of people, who do not own a dog or a cat ($N = 50$). The age range of the participants was 20 to 30. The results of our research are identical to those of Singh, Shailendra and Pragyend (2016). Our research differs from Singh, Shailendra and Pragyend (2016) in the number of participants in the research group, which was 240 participants in our research, and in the research of the abovementioned authors 100 participants. The age range of participants in our research was 20-45, and in the research of Singh, Shailendra and Pragyend (2016) between 20-30. The difference was also in the data collection methods used. In our research we used the FLZ questionnaire to determine life satisfaction and in the research of Singh, Shailendra and Pragyend (2016), the SWLS questionnaire was used.

In research question 3, we investigated whether there was a statistically significant difference between the group of animal owners and people who did not own a pet for the dimension of human-to-human avoidant and anxious attachment. The research group consisted of 240 participants, of which 130 were in the group of pet owners and 110 in the group of non-owners. We tested the research question with the Man-Whitney U test and the results show that there is a statistically significant difference between the group of pet owners and non-owners ($\text{sig.} < 0,05$). The value of the average human-to-human avoidant attachment for the group of pet owners was ($\text{MR} = 137,24$) and for the group of non-owners ($\text{MR} = 100,72$). The average rank for the anxious attachment in the pet owners group was ($\text{MR} = 128,90$) and ($\text{MR} = 110,57$) in the group of non-owners. Based on average ranking values, we claim that pet owners have a higher tendency to create avoidant and anxious attachments than people who do not own a pet. McConnel, Brown et al. (2011) compared a group of animal owners and a group of non-owners in the type of attachment on a sample of 217 participants. They used the Relationship Questionnaire (RQ) diagnostic tool to determine the attachment, which measures four types of attachment: the safe type, the overly concerned type, the frightened type, and the rejecting type. The results of their research show that animal owners have a lower tendency to create the type of attachment that is too concerned with relationships and the formation of a frightened type of attachment compared to the group of people who do not own a pet. These results are not very well comparable to the results of our research, as we used the ECR questionnaire, which identifies the avoidant and anxious type of attachment, and McConnel, Brown et al. (2011) used RQ questionnaire to identify a secure, overly engaged in relationships, anxious and refusing type of attachment. The results of our research cannot be compared to the results of other research, as we have not found any research comparing animal owners with people who do not possess a pet in the type of attachment for the dimensions of human avoidance and anxiety.

Research limitations: We consider the first limitation of our research to be that the questionnaire and the ECR scale for establishing the human-to-human attachment, as well as the PAQ questionnaire for determining the human-to-animal attachment. Another limitation of our research is the use of a large number of items in the questionnaires, as the ECR scale contained 36 items, the PAQ questionnaire 26 items, the FLZ 49 items and the BFI-2 questionnaire contained 60 items, which is 171 items for the group of pet owners and 145 items for the group of non-owner. The completion of all the methods used to determine the variables took at least half an hour for the participant and for this reason, some of the addressed respondents refused to complete the questionnaire or did not complete it. If we were to use shortened forms of some questionnaires, we could get a larger sample that would be more representative, and the research would be more informative. The third limitation is the sequencing of the questionnaires. In the group of pet owners, we had put the PAQ questionnaire immediately after the ECR questionnaire, which was confusing for the respondents, since some items in the PAQ questionnaire were created on the basis of the ECR scale, so the respondents felt that they had already answered some questions. For the future, it would be better to put one or two batteries of research methods we used between these two questionnaires, so that we could avoid the confusion of respondents when filling in questionnaires or affect their judgment based on the experience of completing the previous questionnaire.

Another limitation in our research is that we have focused specifically on detecting the attachment of human to dog or cat and not on other kinds of pets such as rabbits, rats and so on. If we were to focus on more types of pets, we could compare their owners in terms of the type of human-to-animal attachment for the dimensions of avoidance and anxiety. The last limitation of the research, that we consider had an impact on the results, were unevenly created groups in terms of numbers, since the group of pet owners consisted of 130 participants and the group of non-owners was 110 participants.

Application of research results into practice: Comparing the human-to-human and human-to-animal attachment shows us that although people form, in terms of interpersonal relationships, some kind of attachment, we specifically focused on the avoidant and anxious type of human-to-human attachment, they do not have to create the same type of attachment with their pet. This finding is beneficial for us, as we can work with it further and find out whether the creation of a certain type of attachment to a pet or another animal can change the already established type of human attachment in close interpersonal relationships. Another beneficial finding is that people who own a pet are happier with life compared to people who do not own a pet. We would recommend to further verify this finding in the Slovak population, as we see it as a contribution to therapeutic practice, either in individual psychotherapy or in therapy.

4.4 Future research intents. Since the human-to-human attachment is still a largely unexplored area, we propose several research intents for the future. Our first research intent would be to find the connection between the type of human-to-pet attachment for the dimensions of anxiety, loneliness, and avoidance, to compare the group of pet owners and people who do not own a pet in terms of loneliness, and to find out if dog ownership would decrease

the loneliness level of people who have not owned a pet before. Our second research intent would be to find the link between avoidant and anxious attachment to a pet and the perception of stress, to compare a group of pet owners and nonowners in terms of stress perception, and to find out if acquiring a dog will reduce perceived stress levels. The third research intent would be to explore the relationship between avoidant and anxious attachment to a dog and empathy, emotional intelligence and prosocial behavior, and to compare groups of pet owners and non-owners in terms of emotional intelligence, empathy, and prosocial behavior. Our fourth research intent would be to find out what is the connection between the human-to-human attachment and the rate of depression in pet owners. We would compare these four research intents with the following research results.

Garrity et al. (1989) found that owning a pet reduces the loneliness and depression of people who own an animal and who are of an older age. Smolkovic, Fajfar and Mlinaric (2012) argue that pet ownership reduces loneliness and is associated with lower levels of depression in pet owners. The study of Knight and Edwards (2008 in Singh, Shailendra, Pragyendu, 2016) showed an improvement in personal well-being, and reduction in loneliness and stress in people of old age. Based on these findings, our future research intent would be to find whether pet owners are less lonely than people who do not own a pet and if the type of human-to-pet attachment for the dimension of avoidance and anxiety is connected with loneliness. In the case of carrying out this research, it would be interesting for us to focus on the population, who are of an older age. Furthermore, focusing on this type of population, we would be interested in looking into whether a pet can serve as a tool for reducing loneliness after the departure of children from the household or after the loss of a life partner. In their study, Singh, Shailendra, and Pragyendu (2016) compared the perception of stress in a group of pet owners and in a group of non-owners. The results of their research show that dog owners perceive stress less than people who do not own a pet. Based on the research of the above-mentioned authors, our future research intent would be to find out whether pet owners perceive stress less than people who do not own a pet and to identify what coping strategies are used by pet owners and non-owners to manage stress. In the case of the implementation of this intent, we would focus on several age groups, for example, a group of university students from whom we would obtain data during their examination period or a group of teachers in primary and secondary schools and so on.

Vidovic et al. (1999) found out in his research study that children who grew up with a pet and had an attachment to it achieved higher scores in empathy and prosocial behavior compared to children, who did not grow up with a pet. We would implement this intent on children of preschool and school age. The aim of this intent would be to find out whether children who grow up in a family with a pet achieve a higher degree of empathy and prosocial behavior than children, who do not grow up with a pet. Another goal would be to find out if the pet can serve as a tool to increase empathy. We would realize this goal in the form of a quasi-experiment by measuring the level of empathy of the child before the pet's arrival in the family and we would repeat the measurement after half a year and a year after the pet's arrival in the family. McConnel, Brown et al. (2011) in their study compared pet owners with non-owners in levels of

depression. This comparison turned out to be statistically insignificant and therefore it would be our next research intent in the future to verify this finding on our population. Our goal would be to find out if people who do not own a pet tend to experience more depression than pet owners. We would carry out this research on participants who are in their adulthood. Our last future research intent would be to expand the PAQ questionnaire by a subtest, which would directly determine a certain human-to-pet attachment and standardize the PAQ questionnaire to the Slovak population.

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