

The Importance of Pets in Overcoming Future Preschool Teachers Fears of Animals in Order to Increase the Quality of Education

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Abstract

The aim of this study was to examine the correlation between the expressed intensity of fear of animals among future preschool teachers with owning pet animals in childhood or in adulthood. The survey included 135 respondents, future preschool teachers, from two countries, Serbia and Slovenia. A questionnaire and an assessment scale were used as research instruments. According to the results, of all the animals in the offered sample, the respondents were most afraid of the snake, crocodile, wolf and lion. There was no statistically significant difference between the estimates of the respondents from Serbia and Slovenia in terms of showing greater fear towards the mentioned animal species. Owning a pet in childhood, or in adulthood, was not statistically significantly related to the intensity of the overall fear, neither certain animal species fear expressed. Apart from parents, preschool teachers represent an important model who can influence the relationships and experience that children build and adopt towards animals. That is why it is very important that future preschool teachers show calmness, consistency and proper treatment of animals, even if they feel fear or discomfort towards them.

Key words: attitude towards animals; behavioural patterns; model learning; natural sciences; pedagogical interventions.

Introduction

According to Bandura's social learning theory-learning takes place through interaction with others, in a social context. By observing other people's behavior we

can develop similar attitudes. Children develop new skills, acquire new information and adopt new behaviors by observing others. In line with this theory, people learn from each other, through: observation, imitation and modeling. Other individuals can provide models of behavior (Bandura 2002., Bandura 2006, Pavlović, 2021). In addition to parents, preschool teachers represent an important model that can influence the relationships and experiences that children build and adopt towards animals. That is why it is important that persons who opt for the career of preschool teachers have a properly built attitude towards animals, as well as awareness of the breadth of the impact of learning according to the model if they feel fear towards some animals. Model learning is actually a general term used for various forms of social learning based on the behaviour of others with the potential to influence the shaping of one's own behaviour or reasoning, even when there is no intention of the model to influence the observer (Pijanović, 2014). In preplanned situations of observation, children can learn a lot from preschool teachers, but also adopt some values, ways of reacting and prejudices that were neither planned, nor is it desirable for them to happen. Researchers warn that people can react to different behavioural patterns in response to fear (Damjanović, Damjanović, Pantović, Barišić, 2011). There is a need to design training programmes oriented to help teachers overcome negative emotions and develop an interest in invertebrates (Prado, Puig, Evagorou, 2022). Due to their own fear of an animal, a preschool teacher can unnecessarily start panicking and showing a reaction, not thinking of how it may look in the eyes of the children. The child can then imitate the gestures and movements of the preschool teacher hastily shown in the presence of the feared animal, which need not have caused the feeling of fear in the child until then. It is therefore very important that future preschool teachers show calmness, consistency and proper treatment of animals even if they feel fear or discomfort towards them. Persons who opt for this career should reconsider the intensity and nature of their own potential fears towards different animal species and start to work on the reduction of its intensity in a timely manner (Miščević-Kadijević, 2018a).

Fear is a normal human reaction to danger and certain unexpected situations. This feeling prompts the organism to defend itself quickly and various physiological changes occur. Breathing speeds up, blood pressure rises, pupils dilate and a strong feeling of discomfort is experienced. If it is intense, the feeling of fear can also cause reduced levels of intellectual processes. However, if a person notices that they are successfully resisting danger, the fear begins to disappear (Rot, 1968). Researchers explain that people express two types of fear. The first is the fear woven into our genetic maps, which may have contributed to the survival of the species, towards the things that our ancestors feared, such as the fear of snakes, height or darkness. The second type of fear is the learned fear resulting from the forming of a connection with some previous bad experience (Damjanović, Damjanović, Pantović, Barišić, 2011). The researchers made a classification of fears and phobias into: situational phobias (lightning, enclosed spaces, darkness, flying and heights); animal phobias (spiders and snakes); and mutilation phobias (injections, dentists, injuries) (Fredrikson et al., 1996).

One of the most common triggers of human fears are animals (Polák et al., 2020). As children grow up, they acquire information and interact with different animal species towards which they build attitudes and beliefs. Therefore, it is important to provide them with the conditions to meet them, see their place and role in nature, and form an adequate relationship with them.

In general, animals, especially pets, can play an important role in human lives because, among other things, they provide social support that can improve mental and physical health (Buttelmann, Röpke, 2014; McConnell, Paige Lloyd, Humphrey, 2019; Norling, Keeling, 2010). Benefits of animal-assisted interaction have been highlighted in many studies (Brelsford, Meints, Gee, Pfeffer, 2017). According to previous research, owning animals, especially pets, can contribute to numerous beneficial effects in children within the physical, mental and social domains. No correlations were found between fear and general attitudes towards animals (Binngießer, Wilhelm, Randler, 2013). However, it has been observed that except for positive emotions, children and adults can also feel fear towards some of them (Hirschenhauser, Meichel, Schmalzer, Beetz, 2017; Baynes-Rock, 2017; Davey, 1994). Direct contact with animals positively affects children's attitude towards them (Kos, Jerman & Torkar, 2023).

Previous research of fear of animals

Some of children's basic concepts in the field of natural sciences develop in their early childhood, before they start going to school (Mišević Kadijević, 2018b). In recent research one third of the preschool teachers stated that the children in their groups experienced the feeling of losing a pet (Milašinović, 2020). The origin of human fear of certain animals is a topic that is increasingly drawing the attention of researchers (Baynes-Rock, 2017; Davey et al. 1998; Davey, 1994). They associate the fear of animals with the processes of evolution and natural selection because the individuals who managed to avoid or escape from an animal that could hurt them were actually the ones who survived (Öhman, Mineka, 2003; Mineka, Davidson, Cook, Keir, 1984; Prokop, Ozel, Usak, 2009; Mallan, Lipp, Cochrane, 2013; Mišević-Kadijević, 2018a). Preschool girls in Italy expressed more negative attitudes related to the feeling of fear than boys, with invertebrates being the most unpopular group of animals for children (Borgi, Cirulli, 2015). In Serbia, preschool children perceived the lion, snake, bear and spider as the most dangerous animals (Misevic Kadijevic, 2017). In Slovenia, with students aged 11-15, it was observed that, although there were no gender differences in terms of the acquired knowledge about animals, girls were more likely to have fear of wild boars (Siard, Jordan, 2018). When such animals are considered, the authors of another study tried to analyse the emotions of children aged 6 to 16 more deeply. According to the findings, the same children showed somewhat contradictory feelings, as in parallel with the fear of bats they showed an inclination to care about these animals (Kahn, Saunders, Severson, Myers Jr., Gill, 2008). When it comes to the positive emotions of children aged 6 to 14, girls showed a more intense connection with their pets than boys, and children who were single showed a stronger

attachment to their pets compared to children with siblings (Hirschenhauser et al., 2017). A significant number of respondents who were academy students stated that they felt fear of bats (Prokop, Fančovičová, Kubiato, 2009).

Various attempts to reduce the intensity of fear, or disgust towards certain animals, can be observed in literature. One of the proposed ways was to gain direct experience by observing the behaviour and movement of specific animals that are at a safe distance with no possibility of getting into contact with the respondent, unless they want so (Randler, Hummel, Prokop, 2012). When building positive attitudes towards insects, especially bees, adolescents are suggested to engage in certain activities in the natural environment (Silva, Minor, 2017), and when it comes to reducing the intensity of fear of spiders, educational strategies are proposed that lead to acquiring better knowledge and tolerance towards the stated animals (Lemelin, Yen, 2015). During children's contact with dogs, to the researchers' surprise, dog owners were less successful in classifying canine fear than adult subjects who did not have a dog as a pet, suggesting the need for educating adults about the safety of children's interaction with dogs as prevention of dog bites (Demirbas, Ozturk, Emre, Kockaya, Ozvardar, Scott, 2016). Positive outcomes are reported of implementing a violence prevention program by teaching adolescents about appropriate dog care and training (Zasloff, Hart, Weiss, 2003).

Augmented Reality provides students with a specific experience, because they can work with objects created by a computer in a real environment, which encourages them to create their own knowledge structures through new possibilities of interaction. It is used to present events and objects that are difficult, or impossible to see in the present, to demonstrate situations that could actually pose a risk with the personal participation of students, to explain abstract concepts and the like (Ozdamlı, Karagozlu, 2018). Some studies have proved that, through the application of computer applications, primary school third-graders achieved better results on tests of knowledge about animal habitats compared to those who participated in the traditionally based teaching process (Cvjetičanin, Pećanac, Sakač, & Djurendić- Brenesel, 2013).

The aim of this research is to examine the presence of a correlation between the expressed intensity of fear of animals and the possession of pet animals in childhood or adulthood.

Methodology

The research tasks were as follows:

- To determine the intensity of fear that the respondents say that they feel towards certain animals.
- To determine whether there are differences in terms of higher levels of fear expressed towards certain animal species related to the sample of respondents (Serbia and Slovenia).
- To determine whether there is a correlation between owning a pet and the intensity of the overall fear of animals expressed.

- To determine the correlation between owning a pet and the intensity of the fear expressed towards different animals.
- Based on the set tasks, the following hypotheses were derived:
- Respondents express the highest levels of fear towards animals such as the wolf, snake, crocodile and lion.
- There is no significant statistical difference between the respondents from Serbia and Slovenia in terms of fear expressed towards certain animal species.
- Possession of a pet is not related to the intensity of the overall fear of animals expressed.
- Owning a pet is not related to the intensity of the fear expressed towards different animals.

The instruments of the research were a questionnaire in which the respondents stated which animal species they had in childhood and which in adulthood, as well as an assessment scale to determine the intensity of the fear that respondents stated to feel towards the 12 animal species selected based on the review of previous research on fear of animals. The names of 12 animals were offered to the respondents to answer about, assessing their own level of fear on the scale from 1 to 10. The sample included 135 respondents, future preschool teachers from two countries, Serbia and Slovenia. In addition to the descriptive *statistics*, the Chi-square test, the Mann-Whitney U test, and the Wilcoxon test were used.

Results

First will be presented the descriptive data about the respondents. A total of 135 respondents from two countries participated in the research. These were academy students, future preschool teachers. It was a convenient sample because the author was visiting a related faculty in Slovenia. There were 56 respondents from Slovenia (41.5%) and 79 respondents from Serbia (58.5%). The sample consisted primarily of female respondents – 133 and only two male respondents. From the second year of study there were 19.2% of respondents, from the third year 23%, and from the fourth year 57.8%. The structure of the sample according to the age of the respondents is shown in the table 1.

Table 1
The age of the respondents

Age	N	%
20	13	9.6
21	29	21.5
22	48	35.6
23	21	15.6
24	11	8.1
25	10	7.4
26	2	1.5
27	1	0.7

Most of the sample respondents have had the experience of raising a pet. Among them, 112 respondents (83% of the sample) had a pet as a child. The data on the pets and the frequency of their possession in childhood are given in the following tables 2 and 3. Among the respondents, 80 of them (59.3% of the sample) have had a pet as an adult.

Table 2

The list and frequency of the animals the respondents had in childhood

Animal possessed in childhood	N	%
Dog	79	58.5
Cat	47	34.8
Fish	28	20.7
Bird	18	13.3
Rabbit	17	12.6
Guinea pig	9	6.7
Hamster	6	4.4
Turtle	4	3
Chinchilla	1	0.7

Table 3

The list and frequency of the animals the respondents currently have – as adults

Animal possessed in adulthood	N	%
Dog	66	48.9
Cat	32	23.7
Fish	6	4.4
Bird	6	4.4
Rabbit	3	2.2
Turtle	2	1.5
Chinchilla	2	1.5
Guinea pig	1	0.7
Hamster	1	0.7

As the above tables show, the same trend is present in childhood and in adulthood when it comes to owning animals – the most common pets are dogs and cats, followed by fish and birds, but the percentage of respondents who have them decreases in adulthood compared to childhood. The table 4 shows descriptive statistics with average value of the estimated feeling of fear on the scale from 1 to 10 in all 135 respondents.

The Chi-square test was used to check if there was significant statistical difference in the samples from Serbia and Slovenia. Owning a pet during childhood did not result in significant statistical difference in the samples of students from Serbia and Slovenia (Yates-corrected Chi-square test=0.899; df=1; p=0.343. Fisher's Exact Test

$p=0.257$). Neither did the possession of pets in adulthood show significant statistical difference in the samples of students from Serbia and Slovenia (Yates-corrected Chi-square test=1.069; $df=1$; $p=0.301$. Fisher's Exact Test $p=0.285$).

Table 4

The descriptive statistics with average value of the respondents' estimated feeling fear towards animals

Animal	N	Min.	Max.	The average value of estimated fear (1–10 scale)	SD
Snake	135	1.00	10.00	7.67	2.89
Crocodile	135	1.00	10.00	7.16	2.85
Wolf	135	1.00	10.00	6.95	2.83
Lion	135	1.00	10.00	6.76	3.04
Spider	135	1.00	10.00	4.59	3.34
Mouse	135	1.00	10.00	3.77	2.81
Bee	135	1.00	10.00	2.54	2.04
Bird	135	1.00	10.00	2.24	1.95
Dog	135	1.00	10.00	1.86	1.69
Cat	135	1.00	9.00	1.72	1.70
Earthworm	135	1.00	8.00	1.36	1.04
Snail	135	1.00	7.00	1.20	0.69

The next point of research was the question of potential differences in showing a higher level of fear towards certain animal species between the respective groups of respondents from Serbia and Slovenia. The scale consisted of values expressed in numbers 1 – 10. The average obtained values related to higher levels of fear of certain animal species among the respective groups of respondents (Serbia and Slovenia) include values 5 – 10, obtained for 4 animals considered, as follows: 6.76 for the lion, 6.95 for the wolf, 7.16 for the crocodile and 7.67 for the snake. To see whether the sample from Serbia and Slovenia statistically differed significantly in terms of higher levels of expressed fear of the 4 listed animal species, the Chi-square test was used ($\chi^2 = 0.001$, $df = 1$, $p = 0.979$).

The correlation between the variable of experience of owning a pet both in childhood and in adulthood and the intensity of the overall fear of animals expressed, about which the respondents gave assessments in adulthood is checked by the Mann-Whitney U test, as well as the Wilcoxon test, and the details can be found in the tables 5 and 6.

Within the fourth hypothesis, an attempt was made to find out whether whether owning a pet by our respondents was related to the intensity of fear of different animals expressed, whose names were given in the instrument used (lion, cat, crocodile, spider, wolf, mouse, snail, bee, earthworm, snake, bird, dog). In order to provide a more comprehensive picture of the stated problem, the analysis was done for two subgroups

of respondents: those who indicated that they had a pet in childhood, and for those who currently have a pet. The correlations of these variables are presented in the table 7.

Table 5

Correlation between owning a pet in childhood and the intensity of overall fear of animals expressed

Variable	N	Mean rank	Mann-Whitney U	Wilcoxon W	z	p
Owning a pet in childhood	112	67.74	1259.000	7587.000	-0.170	0.865
Not owning a pet in childhood	23	69.26				

Grouping Variable: pet in childhood

Table 6

Correlation between owning a pet in adulthood and the intensity of overall fear of animals expressed

Variable	N	Mean rank	Mann-Whitney U	Wilcoxon W	z	p
Owning a pet in adulthood	81	66.99	2105.500	5426.500	-0.366	0.714
Not owning a pet in adulthood	54	69.51				

Grouping Variable: pet in adulthood

Table 7

Correlation between owning a pet in childhood and adulthood and the individual intensity of overall fear of animals

Animal	Owning a pet in childhood			Owning pet in adulthood		
	Spearman Correlation	Sig. (2-tailed)	N	Spearman Correlation	Sig. (2-tailed)	N
lion	.005	.957	135	-.020	.822	135
cat	-.115	.183	135	-.041	.636	135
crocodile	.029	.735	135	-.078	.372	135
spider	.023	.795	135	-.048	.578	135
wolf	-.028	.751	135	.009	.913	135
mouse	-.030	.730	135	.038	.660	135
snail	.108	.212	135	-.032	.714	135
bee	-.016	.853	135	-.042	.657	135
earthworm	.097	.263	135	.047	.587	135
snake	-.001	.990	135	-.007	.936	135
bird	-.130	.134	135	-.116	.181	135
dog	-.021	.808	135	-.101	.243	135

Discussion

In the group of animals that our respondents feel the greatest fear of are the snake, crocodile, wolf and lion, while the snail and earthworm are the least feared ones. As expected, the fear of snakes was highly ranked in the table shown because, as researchers have already concluded, it is woven into our genetic maps (Öhman, Mineka, 2003; Damjanović, Damjanović, Pantović, Barišić, 2011; Baynes-Rock, 2017). In a recent similar study of this problem, on a sample of future preschool teachers and primary school teachers, respondents expressed the highest level of fear towards the snake – 7.29 and the wolf – 6.65 (Mišćević – Kadijević, 2018a). These figures are very similar to the results obtained in this study (for snake 7.67 and for the wolf 6.95). Although fear of spiders has been reported by other researchers (e.g. Davey, 1994), the average value found among our respondents on the scale ranging from 1 to 10 was 4.59, so this animal was not included in the group of those for which higher levels of fear were expressed.

As described in the table 4, the respondents expressed a low level of fear of the dog (1.86) and it is interesting to note that in some other studies it was found that women were more afraid of the dog than men (Boyd, *et al.*, 2004). This finding in our study is interesting as the majority of respondents were female (133f) and (2m), and could be explained by the fact that almost half of the respondents have had a dog as a pet (58.5% in childhood and 48.9% now), which has led to their getting better familiar with the animal and developing mainly positive emotions towards it, with no feeling of fear, or with lower levels of fear than those described in other studies.

Based on the obtained data from the Chi-square test to check if there was significant statistical difference in the samples from Serbia and Slovenia (owning a pet during childhood), it can be concluded that the highest levels of fear are expressed towards such animals as wolves, snakes, crocodiles and lions, which confirms the first of the set hypotheses.

Based on another use of the Chi-square test to check potential differences in showing a higher level of fear towards certain animal species between the respective groups of respondents from Serbia and Slovenia it can be concluded that the respondents from Serbia and Slovenia did not statistically differ significantly in terms of expressing a higher level of fear towards the lion, wolf, crocodile and snake. Thus the second hypothesis was confirmed.

The next, third, assumption was that owning a pet was not related to the intensity of the overall fear of animals expressed. The instrument used gave us an insight into the data on the respondents' experience with caring for different pets, both in the period of childhood and in the present moment, when they are adults. That is why the correlation was checked between the variable of experience of owning a pet both in childhood and in adulthood and the intensity of the overall fear of animals expressed, about which the respondents gave assessments in adulthood. The Mann-Whitney

U test was used, as well as the Wilcoxon test, the details were in the Tables 5 and 6. Based on the obtained data, it can be concluded that owning a pet in childhood, as well as in adulthood, was not statistically significantly related to the intensity of the overall expressed fear of animals, and thus the third hypothesis was accepted.

The last, fourth hypothesis, which stated that *owning a pet was not statistically significantly related to the intensity of expressed fear of different animals*, was accepted because the obtained data from Table 7 led to that conclusion. This is interesting to compare with the findings of an earlier study which showed that having a pet in childhood did not have influence on the average fear of all animals expressed by future preschool and primary school teachers, and that owning a pet in adulthood led to a statistically significantly lower level of fear towards all observed animals collectively (Miščević-Kadijević, 2018a).

Conclusions

It can be concluded that animals, and especially those with which people are in frequent contact, such as pets, can play an important part in human lives and influence mental and physical health. Preschool teachers influence the attitude and experience that children build and adopt regarding animals, so it is important that they set an example by showing and building together with children a good relationship and proper treatment of animals, even if they feel fear or discomfort when related to them. Teachers can develop critical thinking from three different perspectives- as a thinking routine, as a decision-making process, and as a process of elaborating and selecting from different points of view (Assante, Momanu & Enescu, 2022). From the conducted research on the correlation between owning pets and the feeling of fear towards animals among future preschool teachers in Serbia and Slovenia, it can be concluded the following:

- Respondents stated that in the sample of animals offered, snakes, crocodiles, wolves and lions are the most feared animals.
- The findings among the respondents from Serbia and Slovenia did not statistically differ significantly in terms of expressing a higher level of fear towards these animal species.
- Owning a pet in childhood, as well as in adulthood, was not statistically significantly related to the intensity of the overall fear of animals expressed.
- Owning a pet in childhood, as well as in adulthood, was not statistically significantly related to the intensity of expressed fear of certain animal species.

Critically considering the potential limitations of our research, the following conclusion is that it would be interesting to apply an open-type instrument in the further course of studying this problem, in which respondents could name animals themselves while also stating the intensity of fear they feel towards certain animal

species. Thus new species of animals could be listed apart from the ones offered in the above applied instrument. On the other hand, such a request would prompt the respondents to state only the names of those animals towards which they feel greater fear, while the choice of animals given in this study aimed to include those for which the authors have already reached certain conclusions in recent studies, which we considered interesting to compare.

What is important related to the profession of a preschool teacher is that attention should be paid to the impact of learning according to the model, both the planned one and possibly the unplanned one, which should be kept in mind, especially if preschool teachers are aware that they feel fear of certain animals. This fear can negatively affect the inclusion of certain animal species in the work with preschoolers, as well as the development of children's attitudes and beliefs towards them, while better knowledge about children's attitudes towards animals, as some studies have shown, can help to raise interest in animals, and to create and implement appropriate pedagogical interventions (Borgi, Cirulli, 2015).

Furthermore, based on this, and other similar research with respondents of different age groups, it is possible to create more appropriate programmes for pedagogical interventions for getting better familiarised with animals and reducing fears of them. This can be supported by the results of research that shows the benefits of owning and caring for different animals (McConnell, Paige Lloyd & Humphrey, 2019), and allows for the possibility of gender differences in feelings of fear of certain animals (Siard, Jordan, 2018).

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Važnost kućnih ljubimaca u svladavanju straha od životinja budućih odgojitelja s ciljem povećanja kvalitete obrazovanja

Sažetak

Cilj ovoga istraživanja bio je ispitati povezanost izraženoga intenziteta straha od životinja kod budućih odgojitelja s posjedovanjem kućnih ljubimaca u djetinjstvu ili u odrasloj dobi. U istraživanju je sudjelovalo 135 ispitanika, budućih odgojitelja, iz dvije zemlje, Srbije i Slovenije. Kao instrumenti istraživanja korišteni su upitnik i ljestvica procjene. Prema rezultatima, od svih životinja u ponuđenom uzorku, ispitanici su se najviše bojali zmiје, krokodila, vuka i lava. Nije bilo statistički značajne razlike između procjena ispitanika iz Srbije i Slovenije u pogledu pokazivanja većega straha prema navedenim vrstama životinja. Posjedovanje kućnoga ljubimca u djetinjstvu, kao ni u odrasloj dobi, nije statistički značajno povezano s intenzitetom ukupnoga, ni pojedinačno izraženoga straha od životinja. Osim roditelja, odgojitelji su važan model koji može utjecati na odnose i iskustva koja djeca grade i usvajaju prema životinjama. Zato je vrlo važno da budući odgojitelji pokažu smirenost, dosljednost i pravilan odnos prema životinjama, čak i ako prema njima osjećaju strah ili nelagodu.

Ključne riječi: obrasci ponašanja; pedagoške intervencije; prirodne znanosti; stav prema životinjama; učenje po modelu.

Uvod

Prema Bandurinoj teoriji socijalnoga učenja, učenje se odvija u interakciji s drugima, u društvenom kontekstu. Promatrajući ponašanje drugih ljudi možemo razviti slične stavove. Djeca razvijaju nove vještine, stječu nove informacije i usvajaju nova ponašanja promatrajući druge. U skladu s ovom teorijom, ljudi uče jedni od drugih promatranjem, oponašanjem i modeliranjem. Drugi pojedinci mogu ponuditi modele ponašanja (Bandura 2002., Bandura 2006., Pavlović, 2021.). Uz roditelje, odgojitelji su važan model koji može utjecati na odnose i iskustva koja djeca grade i usvajaju prema životinjama. Zato je važno da osobe koje se odluče za zanimanje odgojitelja imaju pravilno izgrađen odnos prema životinjama, kao i svijest o širini utjecaja učenja po modelu ako prema nekim životinjama osjećaju strah. Učenje po modelu zapravo je opći pojam koji se koristi za različite oblike socijalnoga učenja utemeljenoga na ponašanju

drugih s potencijalom utjecaja na oblikovanje vlastitoga ponašanja ili rasuđivanja, čak i kada ne postoji namjera modela da utječe na drugu osobu (Leksikon obrazovnih termina, 2014). U unaprijed planiranim situacijama promatranja djeca mogu puno naučiti od odgojitelja, ali i usvojiti neke vrijednosti, načine reagiranja i predrasude koje niti su bile planirane, niti je poželjno da se dogode. Istraživači upozoravaju da ljudi mogu reagirati različitim obrascima ponašanja kao odgovor na strah (Damjanović, Damjanović, Pantović, Barišić, 2011). Postoji potreba za osmišljavanjem programa obuke usmjerenih na pomoć učiteljima u prevladavanju negativnih emocija i razvijanju interesa za beskralješnjake (Prado, Puig, Evagorou, 2022). Zbog vlastitoga straha od životinje, odgojitelj može nepotrebno početi paničariti i reagirati, ne razmišljajući kako to može izgledati u očima djece. Dijete tada može oponašati geste i pokrete odgojitelja na brzinu pokazane u prisutnosti životinje koja se boji, a koje dotad nisu morale kod djeteta izazvati osjećaj straha. Stoga je vrlo važno da budući odgojitelji pokažu smirenost, dosljednost i korektan odnos prema životinjama čak i ako prema njima osjećaju strah ili nelagodu. Osobe koje se odluče za ovu karijeru trebale bi preispitati intenzitet i prirodu vlastitoga potencijalnog straha prema različitim vrstama životinja te na vrijeme početi raditi na smanjenju njegovoga intenziteta (Miščević-Kadijević, 2018a).

Strah je normalna ljudska reakcija na opasnost i određene neočekivane situacije. Taj osjećaj potiče organizam na brzu obranu i dolazi do raznih fizioloških promjena. Disanje se ubrzava, krvni tlak raste, zjenice se šire i javlja se jak osjećaj nelagode. Ako je intenzivan, osjećaj straha također može uzrokovati smanjenu razinu intelektualnih procesa. Međutim, ako osoba primijeti da se uspješno odupire opasnosti, strah počinje nestajati (Rot, 1968). Istraživači objašnjavaju da ljudi izražavaju dvije vrste straha. Prvi je strah utkan u naše genetske karte koji je možda pridonio opstanku vrste, prema stvarima kojih su se naši preci bojali, poput straha od zmija, visine ili mraka. Druga vrsta straha je naučeni strah koji proizlazi iz stvaranja veze s nekim prethodnim lošim iskustvom (Damjanović, Damjanović, Pantović, Barišić, 2011). Istraživači su napravili klasifikaciju strahova i fobija na: situacijske fobije (munje, zatvoreni prostori, mrak, letenje i visine); životinjske fobije (pauci i zmije) i fobije od sakaćenja (injekcije, zubari, ozljede) (Fredrikson i sur., 1996.). Jedan od najčešćih okidača ljudskih strahova su životinje (Polák i sur., 2020.). Tijekom odrastanja djeca stječu informacije i dolaze u interakciju s različitim životinjskim vrstama prema kojima izgrađuju stavove i uvjerenja. Stoga im je važno osigurati uvjete da ih upoznaju, sagledaju njihovo mjesto i ulogu u prirodi te s njima uspostave adekvatan odnos.

Općenito, životinje, posebice kućni ljubimci, mogu igrati važnu ulogu u ljudskim životima jer, između ostaloga, pružaju društvenu podršku koja može poboljšati mentalno i tjelesno zdravlje (Buttelmann, Römpke, 2014; McConnell, Paige Lloyd, Humphrey, 2019; Norling, Keeling, 2010). Dobrobiti interakcije uz pomoć životinja istaknute su u mnogim studijama (Brelsford, Meints, Gee, Pfeffer, 2017.). Prema dosadašnjim istraživanjima, posjedovanje životinja, posebice kućnih ljubimaca, može pridonijeti

brojnim povoljnim učincima kod djece na tjelesnom, psihičkom i socijalnom planu. Nije pronađena korelacija između straha i općega stava prema životinjama (Binngießer, Wilhelm, Randler, 2013.). Međutim, uočeno je da osim pozitivnih emocija, djeca i odrasli mogu prema nekima od njih osjećati i strah (Hirschenhauser, Meichel, Schmalzer, Beetz, 2017; Baynes-Rock, 2017; Davey, 1994). Izravan kontakt sa životinjama pozitivno utječe na stav djece prema njima (Kos, Jerman & Torkar, 2023).

Dosadašnja istraživanja straha od životinja

Neki od temeljnih pojmova iz područja prirodnih znanosti kod djece razvijaju se u ranom djetinjstvu, prije polaska u školu (Mišćević Kadijević, 2018b). U nedavnom istraživanju jedna trećina odgojitelja izjavila je da su djeca u njihovoj skupini iskusila osjećaj gubitka kućnoga ljubimca (Milašinović, 2020). Podrijetlo ljudskoga straha od određenih životinja tema je koja sve više privlači pozornost istraživača (Baynes-Rock, 2017; Davey i sur., 1998; Davey, 1994). Strah od životinja povezuju s procesima evolucije i prirodne selekcije jer su jedinke koje su uspjele izbjeći, ili pobjeći od životinje koja bi ih mogla povrijediti, zapravo one koje su preživjele (Öhman, Mineka, 2003; Mineka, Davidson, Cook, Keir, 1984; Prokop, Ozel, Usak, 2009; Mallan, Lipp, Cochrane, 2013; Mišćević-Kadijević, 2018a). Djevojčice predškolske dobi u Italiji iskazale su negativnije stavove vezane uz osjećaj straha od dječaka, a beskralješnjaci su bili najnepopularnija skupina životinja za djecu (Borgi, Cirulli, 2015). U Srbiji su djeca predškolske dobi lava, zmiju, medvjeda i pauka doživljavala kao najopasnije životinje (Mišćević Kadijević, 2017). U Sloveniji je kod učenika u dobi od 11 do 15 godina uočeno da, iako nema spolnih razlika u pogledu stečenoga znanja o životinjama, djevojčice češće imaju strah od divljih svinja (Siard, Jordan, 2018). Kada su u pitanju takve životinje, autori druge studije pokušali su dublje analizirati emocije djece od 6 do 16 godina. Prema nalazima, ista su djeca pokazivala pomalo kontradiktorne osjećaje jer su paralelno sa strahom od šišmiša pokazivala i sklonost brizi za te životinje (Kahn, Saunders, Severson, Myers Jr., Gill, 2008). Kada je riječ o pozitivnim emocijama djece u dobi od 6 do 14 godina, djevojčice su pokazale intenzivniju povezanost sa svojim kućnim ljubimcima nego dječaci, a djeca koja su bila jedinci pokazala su jaču privrženost svojim kućnim ljubimcima u odnosu na djecu s braćom i sestrama (Hirschenhauser i sur., 2017). Značajan broj ispitanika koji su bili studenti, izjavili su da osjećaju strah od šišmiša (Prokop, Fančovićová, Kubiak, 2009).

U literaturi se mogu uočiti različiti pokušaji smanjenja intenziteta straha, odnosno gađanja prema pojedinim životinjama. Jedan od predloženih načina bio je stjecanje neposrednoga iskustva promatranjem ponašanja i kretanja određenih životinja koje su na sigurnoj udaljenosti bez mogućnosti da dođu u kontakt s ispitanikom, osim ako to oni sami ne žele (Randler, Hummel, Prokop, 2012.). U izgradnji pozitivnih stavova prema kukcima, posebice pčelama, adolescentima se sugerira bavljenje određenim aktivnostima u prirodnom okružju (Silva, Minor, 2017), a kada je riječ o smanjenju intenziteta straha od pauka, predlažu se odgojne strategije koje dovode do stjecanje

boljega znanja i tolerancije prema navedenim životinjama (Lemelin, Yen, 2015). Tijekom kontakta djece sa psima, istraživačima je bilo iznenađujuće da su vlasnici pasa bili manje uspješni u klasificiranju psećega straha od odraslih ispitanika koji nisu imali psa kao kućnoga ljubimca, što ukazuje na potrebu edukacije odraslih o sigurnosti interakcije djece sa psima kao prevencije psećih ugriza (Demirbas, Ozturk, Emre, Kockaya, Ozvardar, Scott, 2016). Zabilježeni su pozitivni rezultati provedbe programa prevencije nasilja poučavanjem adolescenata o odgovarajućoj brizi za pse i obuci (Zasloff, Hart, Weiss, 2003).

Proširena stvarnost studentima pruža specifično iskustvo jer mogu raditi s objektima koje je izradilo računalo u stvarnom okruženju, što ih potiče na stvaranje vlastitih struktura znanja kroz nove mogućnosti interakcije. Koristi se za prikaz događaja i predmeta koje je teško ili nemoguće vidjeti u sadašnjosti, za demonstraciju situacija koje bi stvarno mogle predstavljati rizik za osobno sudjelovanje učenika, za objašnjenje apstraktnih pojmova i slično (Ozdamli, Karagozlu, 2018). Neka su istraživanja pokazala da su primjenom računalnih aplikacija učenici trećih razreda osnovne škole postigli bolje rezultate na testovima znanja o životnim staništima u odnosu na one koji su sudjelovali u tradicionalno strukturiranom nastavnom procesu (Cvjetičanin, Pećanac, Sakač, & Đurendić- Brenesel, 2013). Cilj je ovoga istraživanja ispitati postojanje korelacije između izraženoga intenziteta straha od životinja i posjedovanja kućnih ljubimaca u djetinjstvu ili odrasloj dobi.

Metodologija

Zadaci istraživanja bili su sljedeći:

- Utvrditi intenzitet straha za koji ispitanici kažu da ga osjećaju prema određenim životinjama.
- Utvrditi postoje li razlike u višoj razini izraženoga straha prema pojedinim životinjskim vrstama u odnosu na uzorak ispitanika (Srbija i Slovenija)
- Utvrditi postoji li korelacija između posjedovanja kućnoga ljubimca i intenziteta ukupno izraženog straha od životinja.
- Utvrditi korelaciju između posjedovanja kućnoga ljubimca i intenziteta iskazanoga straha prema različitim životinjama.
- Na temelju postavljenih zadataka izvedene su sljedeće hipoteze:
- Ispitanici najveću razinu straha iskazuju prema životinjama kao što su vuk, zmija, krokodil i lav.
- Nema značajne statističke razlike između ispitanika iz Srbije i Slovenije u pogledu izraženoga straha prema pojedinim vrstama životinja
- Posjedovanje kućnoga ljubimca nije povezano s intenzitetom ukupno izraženog straha od životinja
- Posjedovanje kućnoga ljubimca nije povezano s intenzitetom straha izraženoga prema različitim životinjama.

Instrumenti istraživanja bili su upitnik u kojem su ispitanici navodili koje su životinjske vrste imali u djetinjstvu, a koje u odrasloj dobi, kao i skala za procjenu intenziteta straha koji su ispitanici naveli prema 12 životinjskih vrsta koje su odabrane na osnovi pregleda dosadašnjih istraživanja straha od životinja. Imena 12 životinja ponuđena su ispitanicima da procijene vlastitu razinu straha na ljestvici od 1 do 10. Uzorak je obuhvatio 135 ispitanika, budućih odgajatelja iz dviju zemalja, Srbije i Slovenije. Uz deskriptivnu statistiku korišteni su Hi-kvadrat test, Mann-Whitney U test i Wilcoxonov test.

Rezultati

Najprije će biti izneseni deskriptivni podatci o ispitanicima. U istraživanju je sudjelovalo ukupno 135 ispitanika iz dvije zemlje. Bili su to studenti, buduću odgojitelji. Bio je to prigodan uzorak jer je autor bio u posjetu srodnom fakultetu u Sloveniji. Iz Slovenije je bilo 56 ispitanika (41,5 %), a iz Srbije 79 ispitanika (58,5 %). Uzorak se sastojao uglavnom od ispitanica – 133 i samo dvojice ispitanika. S druge godine studija bilo je 19,2 % ispitanika, s treće godine 23 %, a s četvrte godine 57,8 %. Struktura uzorka prema dobi ispitanika prikazana je u Tablici 1.

Tablica 1

Većina ispitanika u uzorku ima iskustva s odgojem kućnoga ljubimca. Među njima je 112 ispitanika (83 % uzorka) u djetinjstvu imalo kućnoga ljubimca. Podatci o kućnim ljubimcima i učestalosti njihovoa posjedovanja u djetinjstvu dani su u tablicama 2 i 3. Među ispitanicima njih 80 (59,3 % uzorka) imalo je kućnoga ljubimca u odrasloj dobi.

Tablica 2

Tablica 3

Kao što pokazuju gornje tablice, isti trend prisutan je i u djetinjstvu i u odrasloj dobi kada je u pitanju posjedovanje životinja – najčešći kućni ljubimci su psi i mačke, zatim ribice i ptice, no postotak ispitanika koji ih imaju opada u odrasloj dobi u odnosu na dob djetinjstva. U Tablici 4 prikazana je prosječna vrijednost procijenjenoga osjećaja straha na skali od 1 do 10 kod svih 135 ispitanika.

Tablica 4

Kako bi se provjerilo postoji li značajna statistička razlika u uzorcima iz Srbije i Slovenije, koristio se hi-kvadrat test. Posjedovanje kućnoga ljubimca u djetinjstvu nije rezultiralo značajnom statističkom razlikom u uzorcima učenika iz Srbije i Slovenije (hi kvadrat test s Jejtsovom korekcijom = 0,899; $df = 1$; $p = 0,343$. Fisherov egzaktni test $p = 0,257$). Ni posjedovanje kućnih ljubimaca u odrasloj dobi nije pokazalo značajnu statističku razliku u uzorcima studenata iz Srbije i Slovenije (hi kvadrat sa Jejtsovom korekcijom = 1.069; $df=1$; $p=0,301$. Fisherov egzaktni test $p=0.285$).

Sljedeća točka istraživanja bilo je pitanje potencijalnih razlika u iskazivanju višega stupnja straha prema pojedinim životinjskim vrstama između odgovarajućih skupina

ispitanika iz Srbije i Slovenije. Ljestvica se sastojala od vrijednosti izraženih brojevima od 1 do 10. Prosječna dobivena vrijednost vezana uz više razine straha od pojedinih životinjskih vrsta kod odgovarajućih skupina ispitanika (Srbija i Slovenija) uključuje vrijednosti od 5 do 10, dobivene za 4 promatrane životinje, a to su: 6,76 za lava, 6,95 za vuka, 7,16 za krokodila i 7,67 za zmiju. Kako bi se vidjelo razlikuje li se uzorak iz Srbije i Slovenije statistički značajno u pogledu viših razina izraženoga straha od 4 navedene životinjske vrste, koristio se hi-kvadrat test ($hi-kvadrat = 0,001$, $df = 1$, $p = 0,979$). Korelacija između varijable iskustva posjedovanja kućnoga ljubimca u djetinjstvu i u odrasloj dobi i izraženoga intenziteta ukupnoga straha od životinja o kojem su ispitanici davali ocjene u odrasloj dobi provjerava se Mann-Whitney U testom, kao i Wilcoxonovim testom, a detalji se mogu vidjeti u tablicama 5 i 6.

Tablica 5

Tablica 6

U okviru četvrte hipoteze pokušano je doći do saznanja je li posjedovanje kućnoga ljubimca kod naših ispitanika povezano s izraženim intenzitetom straha od različitih životinja, čija su imena navedena u korištenom instrumentu (lav, mačka, krokodil, pauk, vuk, miš, puž, pčela, glista, zmija, ptica, pas). Kako bi se dobila cjelovitija slika o navedenom problemu, analiza je rađena za dvije podskupine ispitanika: one koji su naveli da su u djetinjstvu imali kućnoga ljubimca i one koji trenutačno imaju kućnoga ljubimca. Korelacije ovih varijabli prikazane su u Tablici 7.

Tablica 7

Rasprava

U skupini životinja od kojih naši ispitanici osjećaju najveći strah su zmija, krokodil, vuk i lav, dok se najmanje boje puža i kišne gliste. Očekivano, strah od zmija visoko je rangiran u prikazanoj tablici jer je, kako su istraživači već zaključili, utkan u naše genetske mape (Öhman, Mineka, 2003; Damjanović, Damjanović, Pantović, Barišić, 2011; Baynes-Rock, 2017). U nedavnom sličnom istraživanju ovoga problema, na uzorku budućih odgajatelja i učitelja razredne nastave, ispitanici su najveću razinu straha iskazali prema zmiji – 7,29 i vuku – 6,65 (Miščević – Kadijević, 2018a). Brojke su vrlo slične rezultatima dobivenim u ovoj studiji (za zmiju 7,67 i za vuka 6,95). Iako su strah od pauka zabilježili i drugi istraživači (npr. Davey, 1994), prosječna vrijednost utvrđena među našim ispitanicima na ljestvici od 1 do 10 bila je 4,59, tako da ova životinja nije uvrštena u skupinu onih za koje su izraženi strahovi veće razine. Kao što je opisano u Tablici 4, ispitanici su iskazali nisku razinu straha od psa (1,86), a zanimljivo je napomenuti da je u nekim drugim studijama utvrđeno da se žene više boje psa nego muškarci (Boyd i sur., 2004). Ovaj nalaz u našem istraživanju je zanimljiv jer je većina ispitanika bila ženskoga spola (133 ž) i (2 m), a može se objasniti činjenicom da je gotovo polovica ispitanika imala psa kao kućnoga ljubimca

(58,5 % u djetinjstvu i 48,9 % sada), što je dovelo do njihovoga boljeg upoznavanja sa životinjom i razvoja uglavnom pozitivnih emocija prema njoj, bez osjećaja straha ili s nižim razinama straha od onih opisanih u drugim studijama. Na temelju dobivenih podataka Hi-kvadrat testom za provjeru postoji li značajna statistička razlika u uzorcima iz Srbije i Slovenije (posjedovanje kućnoga ljubimca u djetinjstvu), može se zaključiti da su najveće razine straha izražene prema životinjama kao što su vukovi, zmije, krokodili i lavovi, što potvrđuje prvu od postavljenih hipoteza. Na temelju drugoga korištenja Hi-kvadrat testa za provjeru potencijalnih razlika u pokazivanju više razine straha prema određenim vrstama životinja između odgovarajućih skupina ispitanika iz Srbije i Slovenije može se zaključiti da se ispitanici iz Srbije i Slovenije statistički značajno ne razlikuju u smislu izražavanja više razine straha prema lavu, vuku, krokodilu i zmiји. Time je druga hipoteza potvrđena.

Sljedeća, treća, pretpostavka bila je da posjedovanje kućnoga ljubimca nije povezano s intenzitetom ukupnoga izraženog straha od životinja. Korišteni instrument dao nam je uvid u podatke o iskustvima ispitanika u brizi za različite kućne ljubimce, kako u razdoblju djetinjstva tako i u sadašnjem trenutku kada su odrasli. Stoga je provjeravana korelacija između varijable doživljaja posjedovanja kućnoga ljubimca i u djetinjstvu i u odrasloj dobi i intenziteta izraženoga ukupnoga straha od životinja, o čemu su ispitanici davali ocjene u odrasloj dobi. Korišten je Mann-Whitney U test, kao i Wilcoxonov test, detalji su u tablicama 5 i 6. Na temelju dobivenih podataka može se zaključiti da posjedovanje kućnoga ljubimca u djetinjstvu, kao i u odrasloj dobi, nije bila statistički značajno povezana s intenzitetom ukupnoga izraženog straha od životinja, pa je treća hipoteza prihvaćena.

Posljednja, četvrta hipoteza, koja je tvrdila da posjedovanje kućnoga ljubimca nije statistički značajno povezano s intenzitetom izraženoga straha od različitih životinja, prihvaćena je na osnovi podataka iz Tablice 7. Ovo je zanimljivo usporediti s nalazima ranijega istraživanja koje je pokazalo da posjedovanje kućnoga ljubimca u djetinjstvu nije utjecalo na prosječan strah od svih životinja koji su iskazivali studenti budući odgojitelji i odgojitelji te da posjedovanje kućnoga ljubimca u odrasloj dobi dovodi do statistički značajno niže razine straha prema svim promatranim životinjama zajedno (Mišćević-Kadijević, 2018a).

Zaključak

Može se zaključiti da životinje, a posebno one s kojima su ljudi često u kontaktu, poput kućnih ljubimaca, mogu imati važnu ulogu u ljudskim životima te utjecati na psihičko i fizičko zdravlje. Odgojitelji utječu na stavove i iskustva koja djeca grade i usvajaju prema životinjama, stoga je važno da svojim primjerom pokazuju i grade zajedno s djecom dobar odnos i ispravno postupanje prema životinjama, čak i ako osjećaju strah ili nelagodu u vezi s njima. ih. Odgojitelji mogu razvijati kritičko mišljenje iz tri različite perspektive- kao rutinu razmišljanja, kao proces odlučivanja i kao proces elaboracije i odabira iz različitih gledišta (Gabriela Assante, Momanu i Enescu, 2022).

Iz provedenoga istraživanja o povezanosti posjedovanja kućnih ljubimaca i osjećaja straha prema životinjama među budućim odgojiteljima u Srbiji i Sloveniji može se zaključiti sljedeće:

- Ispitanici su naveli da su u uzorku ponuđenih životinja zmijske, krokodili, vukovi i lavovi životinje kojih se najviše boje.
- Nalazi među ispitanicima iz Srbije i Slovenije nisu se statistički značajno razlikovali u iskazivanju višega stupnja straha prema ovim vrstama životinja.
- Posjedovanje kućnoga ljubimca u djetinjstvu, kao ni u odrasloj dobi, nije statistički značajno povezano s intenzitetom ukupnoga izraženog straha od životinja.
- Posjedovanje kućnoga ljubimca u djetinjstvu, kao ni u odrasloj dobi, nije statistički značajno povezano s intenzitetom izraženoga straha od pojedinačnih životinjskih vrsta.

Kritički razmatrajući potencijalna ograničenja našega istraživanja, dolazi se do zaključka da bi bilo zanimljivo u daljnjem tijeku proučavanja ovoga problema primijeniti instrument otvorenoga tipa u kojem bi ispitanici mogli sami imenovati životinje uz navođenje intenziteta straha koji osjećaju prema određenim životinjskim vrstama. Tako bi se mogle navesti nove vrste životinja osim onih koje su ponuđene u gore primijenjenom instrumentu. S druge strane, takav bi zahtjev ponukao ispitanike da navedu imena samo onih životinja prema kojima osjećaju veći strah, dok je izbor životinja dan u ovom istraživanju imao za cilj uključiti one za koje su autori već došli do određenih zaključaka u novijim studijama, a koje smo smatrali zanimljivima za usporedbu. Ono što je važno vezano uz profesiju odgojitelja jest da treba obratiti pozornost na utjecaj učenja po modelu, kako onom planiranom tako i onom eventualno neplaniranom, što treba imati na umu, pogotovo ako su odgojitelji svjesni da osjećaju strah od određenih životinja. Taj strah može negativno utjecati na uključivanje pojedinih životinjskih vrsta u rad s predškolicima, kao i na razvoj dječjih stavova i uvjerenja prema njima, dok bolje poznavanje odnosa djece prema životinjama, kako su pokazala neka istraživanja, može pomoći u povećanju interesa za životinje te kreiranju i provođenju odgovarajućih pedagoških intervencija (Borgi, Cirulli, 2015). Nadalje, na temelju ovoga, ali i drugih sličnih istraživanja s ispitanicima različitih dobnih skupina, moguće je izraditi primjerenije programe pedagoških intervencija za bolje upoznavanje životinja i smanjenje straha od njih. U prilog tome mogu ići i rezultati istraživanja koji pokazuju dobrobiti posjedovanja i brige za različite životinje (McConnell, Paige Lloyd i Humphrey, 2019) te dopuštaju mogućnost spolnih razlika u osjećaju straha od pojedinih životinja (Siard, Jordan, 2018).