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Kindergarten Children's Perception of Animals Focusing on the Look and Fear of Animals*

Milan KUBIATKO[a]
Masaryk University

Abstract

The study is focusing on the finding out the children's perceiving of animals from the view of look and fear. The additional aims were to find out the influence of gender and age on the perceiving of animals from the view of look and fear. The sample size was created by the 27 Czech kindergarten children from two kindergartens. The number of 5 years old children was 13 and rest was 6-years old children. The number of boys was 17 and number of girls was 10. The procedure included face-to-face closed interview with every children individually. The ten colored pictures with animals were presented to children. The questions were focused on the identification of animals, evaluation of animals according the look and the fear. There was not find out significant influence of gender and age on the results. In the conclusion of study are suggested some implications.

Key Words

Animals, Identification, Kindergarten Children, Look, Fear.

The perceiving of animals is very important for the securing of the good relationship between human and nature. However, there exists the situation, the mostly of people distinguish between "good" and "bad" animals. The bad animals are considered for harmful and useless. People do not protect them, because they have not got correct information or they are without information about these kinds of animals. There is a problem; the opinions of adults are very hard transformable, also high school and college students are changing hard their opinions. So, the kindergarten children are influenced their teacher, parents and relatives, so they can change own opinion. On the basis of this fact, it seems to be important to find out kindergarten children's perception of animals, if children distinguish between good and bad animals, why they like some animals and some not. If they have got fear from some animals and why they have got fear.

Theoretical Background

The studies, which are focusing on the perception of kindergarten children of animals, are very rare. The studies relating to kindergarten children's perception of animals are unknown. The researchers are predominantly focused on the lower secondary school pupils and high school students' perception of animals. The part of studies is focused on the influence of pet on perceptions of animals. For example Melson (2001), Morrow (1998) described attitudes toward animals of pet owners. Very interesting study from Prokop and Tunnicliffe (2010) described the effect of pet owning on the attitudes and knowledge of respondents about animals. Having pets at home was associated with more positive attitudes to, and better knowledge of, both popular and unpopular animals. Girls were less favorably inclined in comparison with boys to animals that may pose a threat, danger or disease to them. Batt

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a **Milan KUBIATKO, Ph.D.,** is an assistant professor. Correspondence: Assist. Prof. Milan KUBIATKO, Masaryk University, Faculty of Education, Institute for Research in School Education, Porici 31, 603 00 Brno, Czech Republic. E-mail: mkubiatko@gmail.com.

(2009) investigated whether there is a link between bio-behavioural similarity to humans and preferences for animal species that are obtained when subjects view a set of 40 pictures illustrating a wide diversity of animals. Extensive data regarding the natural history, behavior and physiology of 40 species of animals from a wide range of taxonomic groups were collected. Bio-behavioral similarity between animal species and humans was formed on the basis of multidimensional analyses, including factors such as size, weight and lifespan among the physical attributes, and reproductive strategy, parental investment and social organization among the behavioral traits. It was found that a clear relationship between similarity and preference exists, suggesting that humans are predisposed to liking species on the basis of shared bio-behavioral traits. Lindemann-Matthies (2005) investigated which plants and animals Swiss children found most attractive and evaluated the effect of an educational program on children's preferences for species.

A considerable number of studies on attitudes towards animals have recorded gender differences. Lindemann-Matthies (2005) showed males generally like wild and exotic animals whilst females rather prefer pets. Kellert and Berry (1987) found that women were more humane and moralistic about animals than men, but they were also more negative in attitudes toward some animals than men. In another study, less liked animal species were found to be more interesting for males and those that were liked were more popular for females (Bjerke & Østdahl, 2004). Similar gender differences were also documented relating to humans' fears of large carnivores; females were expressing greater fear to phobic animals than males (Røskaft, Bjerke, Kaltenborn, Linnell, & Andersen, 2003).

Next, there are some studies, which were focused on the investigation of fear. The emotion of fear is associated especially with predatory animals that are potentially dangerous to humans (Seligman, 1971), and the emotion of disgust is primarily related to avoidance of certain animals, ill humans, feces, vomit, sexual substances, and other harmful things (Rozin, Haidt, & McCauley, 2000). An increasing number of studies have showed that disgust is adaptive, because it reduces the probability of transmission of infectious diseases (Oaten, Stevenson, & Case, 2009; Prokop, Usak, & Fancovicova, 2010; Stevenson, Case, & Oaten, 2009). Arrindell (2000) identified four types of animals that provoke fear: (a) fear relevant animals (e.g., rat, bat, snake); (b) dry or nonslimy invertebrates (e.g., wasp, beetle, bee); (c) slimy or wet-looking animals (e.g., snail, worm, eel); and (d) farm animals. The author also argued for a fifth type (a predatory animals category), found in other studies where larger predators were included in the survey (e.g., Davey et al., 1998). Randler, Hummel, and Prokop (2012) experimentally examined whether disgust and fear toward three dissimilar, unpopular animals (mice, snails, and wood lice) could be ameliorated by practical work in traditional school biology settings. We predicted that physical contact with these animals would make them more agreeable to children; thus the level of disgust and fear would decrease after the study.

This kind of research is conducted by paper-pencil questionnaire, but in this case it was impossible, because children did not know to write. The recent time is marked by the investigations, where the using of colored pictures or using pictures through PowerPoint presentation. Tomazic (2011b) presented a research of attitudes, fear and disgust that first- and final-year pre-service biology teachers have expressed toward 25 animals, in connection with direct experience of individual animal species. Students' attitudes and emotions were assessed with a self-report questionnaire. Results show that final-year students on average rate their attitude higher (more positive) and fear and disgust lower (less negative) than their first-year counterparts.

Method

Aims and Research Questions

The main aim was to find out the children's perceiving of animals from the view of look and fear. The additional aims were to find out the influence of gender and age on the perceiving of animals from the view of look and fear.

The research questions are followed:

1. Is there any influence of age on the perceiving of animals from the view of look and fear?

2. Is there any influence of gender on the perceiving of animals from the view of look and fear?

Participants

The participants were 27 kindergarten children from two Czech kindergarten schools. The participants of the study were 5 and 6 years old. The number of 5 years old children was 13 and rest was 6-years old children. The number of boys was 17 and number of girls was 10. Both kindergartens are intentional without any alternative style of teaching.

Instrument and Procedure

The procedure included face-to-face closed interview with every children individually. The ten colored pictures with animals were presented to children. All pictures were freely downloaded from Google. Each picture was of high quality, and contained whole body of the animal. There were 5 "bad animals" (spider, bat, shark, snake, bear) and 5 "good animals" (dog, monkey, cat, horse, dolphin). The selection of animals was subjectively, there was an effort to choose animals, which are common for kindergarten children. There were presented domestic animals (for example dog), wildlife animals (for example bear) and also exotic animals (for example shark). Exotic animals could be known by children from media, books or from zoo. Every animal was presented maximally one minute and than every child answered on five questions toward each of the animal. The first question was open-ended, focused on the identification of the animal (naming of the animal). The second question was focused on the look of the animal (Do you like this animals?).This question was Likert type item (5 = totally agree...1 – totally disagree). The third question was focused on the explanation of the liking or disliking of animals, it was open-ended question. The fourth question was also Likert type and it was focused on the fear (Have you got a fear from this animal?) with the possibilities (1 = totally agree...5 = totally disagree). The answers of children were written on the answer sheet by the investigator.

The Statistical Procedure

The obtained data were coded into numerical form. The normality of data were secured by Shapiro-Wilks test for the two part of the questionnaire - look (second question) and fear (fourth question). Data from both part are normally distributed (look: $W = 0.97$, $p = 0.69$; fear: $W = 0.95$; $p = 0.20$). It allowed using parametric methods of data evaluation. Before the using of descriptive and inductive statistic, the reliability of data was calculated. For the "look" part of questionnaire it was $\alpha = 0.57$ and for "fear" part of questionnaire it was $\alpha = 0.73$. From the methods of descriptive statistic it was used mean score and standard deviation and from inductive statistic it was used t-test, where the score for look, fear, bad animals and good animals was as dependent variable and the age and gender were independent variables. The relationship between dependent variables was evaluated by Pearson product moment. The Analysis of Variance (ANOVA) was used by the evaluation in the inter-group effect (gender + age) on the results.

Results

Identification of Animals

The children had not got problems with identification of animals. Dog, spider, monkey, cat, horse, dolphin and bear were identified by all children correctly. The shark was incorrectly identified by one child, who identified it as dolphin. The snake was identified correctly by 88.89 % of children; the rest of them identified it as a cobra, an earthworm and a dinosaur. The relatively biggest problem was with a bat. The 81.48 % of children identified it correctly, the rest of respondents identified it as vampire.

The Evaluation of Look and Fear

As it is shown in the figure 1, the dolphin is considered as the best look animal and the spider is considered for the worst look animal. The spider as the only one animal with the score below 3.00 ($x = 2.37$). As we can observe, the animals are divided into two halves. First are "good animals" and second are "bad animals".

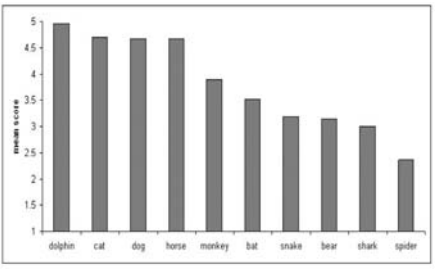

Figure 1. *The Ranking of Animals according the Look*

When we asked, why this animal like or dislike, the reason were mostly: "it jumps from the water" or "it is very beautiful animal" and one reason was very interesting: "it does not eat people". The reasons, why is spider so unlike, were for example: "it is woolly" or "it can bite" or "it is scary". One interesting reason was "it is slimy". The mostly of children wrote, why they like dog, that it is nice animal, the same reason was for the cat and some of children wrote, the cat has got velvety hair. The mostly of children wrote about horse. "it can jump" or "it has got nice mane" and for the monkey: "it is nice animal" and the mostly used reason was "it climbs a tree". Next, there are presented some reason for the bad animals. The bat was dislike because: "it sucks a

blood". The mostly used reasons for the shark were: "it bites" or "it has got teeth". Children showed different reason why the snake is unlike for them. For example: "it strangles people" or "it hisses". One child wrote: "it reacts on flute". And the bear is unlike because: "it is big" or "it can eat people".

The evaluation of fear of animals showed, the children had got the most fear from shark and bear (score was more than 3.0) and the least had got from dog, dolphin, cat and horse (score below 1.5) (figure 2). The other animals achieved mean score between 2.0 and 3.0, except monkey (x = 1.92).

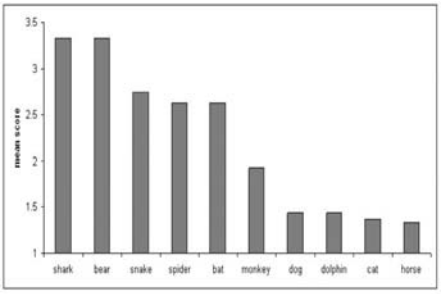

Figure 2. *The Ranking of Animals according the Fear*

The relationship between look and fear was supported by the simple correlation (Pearson), which showed, if the children had got big fear from animals, they evaluated animals as not well looked (figure 3). The relationship between fear and look was significant (r = -0.40; $p < 0.05$).

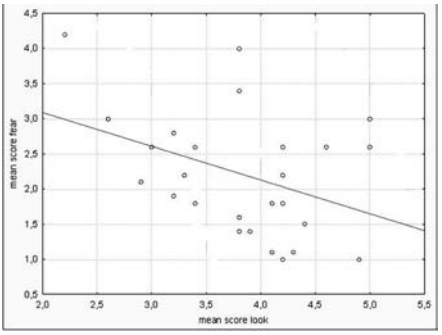

Figure 3. *The Relationship between Fear and Look*

The Influence of Age and Gender

Next, there was focus on the finding out of the influence of age and gender on the evaluation of animals according the look and the fear. There were not found statistically significant differences between 5 and 6 years old children. By the question look the higher score achieved 6-years old children (x = 3.90; SD = 0.70) in comparison with 5-years old children (x = 3.71; SD = 0.74) and as it was mentioned above, the effect was insignificant (t = 0.67; p = 0.51). The insignificant difference was found out in the question regarding to fear (t = 1.90; p = 0.07). The younger children had got bigger fear from animals (x = 2.53; SD = 0.96) in comparison with older children (x = 1.93; SD = 0.67).

The effect of gender was insignificant in the evaluation of look (t = 1.57; p = 0.13), the boys achieved higher score (x = 3.97; SD = 0.60) in comparison with girls (x = 3.54; SD = 0.82). Also, the influence of gender on the fear of animals was insignificant (t = 1.32; p = 0.20), girls had got bigger fear from animals (x = 2.50; SD = 0.88) in comparison with boys (x = 2.05; SD = 0.83).

There was not found out significant difference in the inter-group effect (gender + age) on the evaluation of look (F = 0.02; p = 0.89). The similar result was found out in the evaluation of fear (F = 0.09; SD = 0.77). The distribution of score is shown in the figure 4.

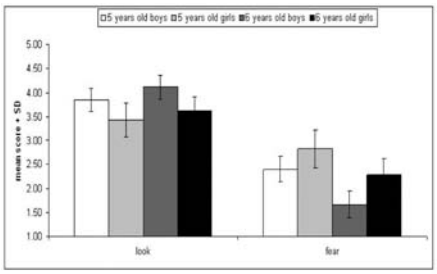

Figure 4. *The Distribution of Score in the Evaluation of Look and Fear according to Gender and Age of Respondents*

Bad and Good Animals

The last analysis is regarding to bad and good animals. As it was mentioned in the methodology part of the study among bad animals were included (spider, bat, shark, snake, bear) and among good animals were included (dog, monkey, cat, horse, dolphin). There is an analysis focused on the finding out the influence of gender and age on the perceiving of good and bad animals. The influence of age was not detected (table 1).

Table 1.
The Influence of Age on the Perceiving of Good and Bad Animals

	t	p	mean score (6 years old)	mean score (5 years old)
look - good animals	0.30	0.76	4.54	4.61
look - bad animals	0.94	0.35	3.26	2.81
fear - good animals	1.32	0.20	1.30	1.72
fear - bad animals	1.61	0.12	2.56	3.34

t – value of t-test / p – significance level

The effect of gender was also insignificant in all observed categories (table 2).

Table 2.
The Influence of Gender on the Perceiving of Good and Bad Animals

	t	p	mean score (boys)	mean score (girls)
look - good animals	0.64	0.53	4.63	4.48
look - bad animals	1.49	0.15	3.31	2.60
fear - good animals	1.53	0.14	1.32	1.82
fear - bad animals	0.75	0.46	2.79	3.18

t – value of t-test / p – significance level

Discussion

The study was focused on the evaluation of kindergarten children's perception of animals with focusing on the look and fear. There is possible to divide findings into three points.

1. The kindergarten children are able to distinguish between good and bad animals. By the evaluation of animals on the basis of their look there is clear perceiving of good animals (dog, monkey, cat, horse, and dolphin) and bad animals (spider, bat, shark, snake and bear). This effect is possible to observe in the study of Tomazic (2011b), where the pre-service teachers attitudes toward animals were divided clearly. The animals, which are considered for good (e.g. cat, dog) achieved the most positive attitudes and relatively bad animals (e.g. fly, cockroach) achieved relatively negative attitudes. So, there is evident, that the perceiving of animals and their dividing on good and bad is remaining from the child's ages to the adulthood. The idea of good and bad animals is supported by the evaluation of animals according to fear of them. The situation is similar as in evaluating by look. There is possible explanation, the children are influenced from the side of parents, teachers and maybe media about harmfulness of animals like bear, shark, spider. Maybe relatives or teachers described animals as spider or bat as bad, which are useless for animals and they cause damages. The animals like snakes, bats, spiders, sharks and bears many times are represented as bad in the fairytales, which are read to children in kindergarten or in home from parents and relatives. Also the habitat and way of living of "bad" animals can cause their negative perception. Nearly all "bad" animals are nocturnal, they are carnivorous and their shape of body can also cause negative feelings. Plous (1993) wrote about it, the animals which are similar to humans perceive more positive.

2. The second point arising from the results of the study is the influence of the gender and age on the results. The influence of these two categorical variables was insignificant. Probably in the later age, it is possible to observe differences. In this age (5 – 6 years old) the interests of the children are only creating and they knowing of the world is mainly mediated through the other people or media. The number of studies relating to influence of age is relatively low, but the studies, which are focusing on the influence of gender is high. In our study was not detected the significant difference in the evaluating of animals according their look and fear of them between boys and girls. Other studies provided different finding, females reported greater fear of animals than males (Arrindell et al., 2003; Roskaft et al., 2003). The reasons for these patterns are not clear, maybe Tomazic (2011a) provided the explanation, that says less fear of animals in males would be expressed later in life, when males become sexually active, because males risk more than females and these risks in adult males would be interpreted as costly signals by which males advertise their physical abilities to females.

3. This is only small notice toward identification of animals by kindergarten children. The mostly of animals were identified correctly, but in the one case, concretely bat, were answers of some children very interesting. Part of children considered bat for vampire and they thought, the bat (vampire) sucks a blood. This wrong idea is remaining till adulthood (Prokop, Fancovicova, & Kubiatko 2009).

Conclusion

This study is trying to fill the gap, which exists in the investigation of perception of animals. Our respondents were kindergarten children, this group of respondents is neglected in the investigation of animals perceiving. This study has got some limitations. First of them is the relatively small number of respondents. Maybe on the higher number of children we can find out some other results. Maybe children would say why they wrongly identified concrete kind of animal. This limit could be reduces by higher number of investigators. Next is relatively small number of animals, but children were very young and the interview with one children last minimally 30 minutes, so the higher number of presented animals could exhaustion of children. Next limit is the relatively local character of investigation, so the comparison with other countries could be interesting.

As there was explored, also kindergarten children distinguish between "good" and "bad" animals. It is big chance that this distinguishing survives into adulthood, so the teachers and parents could try to reduce this distinguishing. As it was mentioned above, the "bad animals" are really described as bad animals in many fairytales. So it is relatively impossible to prohibit authors of fairytales write about e.g. snakes as poisonous and harmful animals. Teachers and parents could explain to children, that it is not so true, these kinds of animals have got irreplaceable place in the nature. Next activity, which erases the line between "good" and "bad" animals is to allow them know live animals, not only dogs and cats, but also, children could try to touch live snake. Children will convince of the relatively harmlessness of this kind of animals. The teachers could present other animals, not only direct observation, but also the watching documentary movies about nature.

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