Young children's interest in live animals

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Animals are important stimuli for humans, and for children in particular. In three experiments, we explored children's affinity for animals. In Experiment 1, 11- to 40-month-old children were presented with a free-play session in which they were encouraged to interact with several interesting toys and two live animals – a fish and a hamster. Experiment 2 used the same methodology with 18- to 36-month-old children and two additional animals – a snake and a spider – to examine whether children's behaviours would differ for benign and potentially threatening animals. Finally, in Experiment 3, a more controlled paired-preference paradigm was employed to assess 18- to 33-month-old children's interactions with three live animals – a fish, hamster, and gecko – versus three physically similar toy animals. Across all three experiments, children interacted with the animals more often than with the toys. Further, they behaved differently towards the animals than the toys, talking about the animals more than the toys and asking more questions about them. The parents of the children also spent more time interacting with the animals, directing their children's attention more towards the animals than the toys. This research supports the idea that humans have an affinity for animals that draws their attention to animals, even when attractive toys are present.

Animals play an important part in the everyday lives of the majority of humans, including children. From a young age, children are introduced to animals through books and stories, cartoon characters, toys, as well as by having pets. Indeed, pets are present in more than 70% of US households with children (Melson, 2003), and over 50% of all households in the United Kingdom (PFMA, 2011). It has recently been proposed that humans may have a natural affinity for animals that is evident very early in life (Bloom Pickard, Soska, & DeLoache, 2012; DeLoache, Bloom Pickard, & LoBue, 2011; Wilson, 1984).[1] In support of this view, when presented with pairs of realistic videos – one of a moving animal and the other of a moving artefact, 4- to 12-month-old infants look significantly longer at the animals (Bloom Pickard *et al.*, 2012).

Although this study establishes that human infants preferentially attend to animals over objects, other research has shown that infants might readily associate certain animals

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[1] *For the sake of simplicity, the term animals will be used to refer to non-human animals throughout the manuscript.*

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with fear. DeLoache and LoBue (2009) presented 7- to 16-month-old infants with pairs of videos of animals – one of a snake and one of a non-snake (elephant, hippo, giraffe, etc.). The videos were accompanied by either a happy or a fearful voice. The infants looked longer at the snakes when listening to the fearful voice than when listening to the happy one; there was no differential responding to the non-snakes. Thus, infants display a general visual preference for animals, as well as a bias to associate *threat-relevant* animals such as snakes with a fearful stimulus. This finding is consistent with the claim that humans have a predisposition to associate fear with certain animals (specifically, snakes and spiders) (Öhman & Mineka, 2001).

In these studies, simple looking preferences were assessed, but there are very few studies that have examined other behavioural responses to live animals in children and infants. In one such study, Kidd and Kidd (1987) found that 12- to 30-month olds display more approach or attachment-related behaviours towards real animals when compared to mechanical animals that also moved. A more recent study by Ricard and Allard (1993) reported more modest findings, but suggest that 9- to 10-month-old infants show a prolonged interest in live animals.

In the experiments reported here, we reassess infants' naturalistic interactions with live animals with the primary goal of examining whether infants and young children exhibit an early behavioural preference for animals over inanimate entities. Accordingly, in Experiment 1, we examined the behaviour of infants and young children towards two live animals (a hamster and a fish) versus a set of highly attractive toys in a naturalistic setting.

Our second goal was to explore young children's responses to *threat-relevant* animals. Thus, in Experiment 2, we observed children's responses to two non-threatening animals (the hamster and fish from Experiment 1) and two threat-relevant animals (a spider and a snake). To the extent that humans have a predisposition to associate snakes and spiders with fear, infants might be more cautious in response to them than to other animals.

A third goal was to explore the role parents play in their children's interactions with live animals. This issue could be particularly important in the presence of threatening animals. Thus, in Experiment 2, after interacting alone for 5 min with the animals and toys, parents were invited to join their children in the interaction for an additional 5 min. Behavioural responses to the animals and toys were coded for both children and parents.

Finally, an overarching goal of the current work is to examine children's responses to animals in a naturalistic environment. Thus, Experiments 1 and 2 utilize free-play paradigms in order to maximize ecological validity. However, free-play paradigms have some limitations. In Experiment 3, we sought to replicate the findings of Experiments 1 and 2 using a more controlled procedure. Children were presented with pairs of live animals and toy replica animals that were matched perceptually on an attached display. This experiment allowed us to examine children's responses to animals when matched with a similar toy animal that children could not manipulate.

EXPERIMENT 1

Our first goal was to examine children's natural affinity for animals. Experiment 1 is an exploratory study in which we used a naturalistic free-play paradigm so that our findings would translate to how children respond to animals in the real world. Thus, we simply observed children's behaviour towards two live animals versus a variety of attractive

toys. We predicted that the children would interact more often with the animals than with the toys.

It is important to note that a major reason children might be attracted to animals is because animals are animate objects. However, it was not our goal to manipulate animacy *per se* – instead, we sought to examine children's *natural* behaviour towards real animals versus objects. We thus did not control for animacy in any of the following experiments, as animals move naturally in their environments and most objects do not. However, we did make an effort to select animals based on low movement, as to minimize the effects of animacy while maintaining ecological validity.

Participants

The 38 participants (17 girls, 21 boys) were from a relatively wide age range – 11–40 months of age ($M = 24.3$ months). Because there is little previous work on children's interactions with live animals, we chose a wide age range to maximize our ability to identify differences in behavioural responses. All of the participants tested here were recruited from records of birth announcements and registration at community events. The sample was predominantly Caucasian and middle class.

Materials

The stimulus materials included 14 small toys and 2 live animals. The toys were a police car, ball, two rattles, cup and saucer, small airplane, doll, bottle, crib, toy camera, blocks, and two fire trucks. These stimuli were chosen based on their commonality among children's toys. The live animals were a tan Sentinel hamster and a blue and red Beta fish. These animals were chosen because they are common household pets and move minimally. The hamster was housed in a small plastic cage that contained no other objects, and the fish was in a small fish bowl. Each of the animal enclosures sat on a wooden shelf fastened to the wall (30 cm from the floor). Again, these animals were chosen because they move very little during the day. The Beta fish is a slow moving animal, and was limited in range because of the small space inside the bowl. The hamster is nocturnal and slept during most of the experimental sessions.

Parents were asked to fill out a questionnaire about whether their children had seen a variety of animals. The questionnaire asked parents to indicate whether children had a favourite animal, animal fears, pets at home, and which animals the child had seen live, in a book, or on television. Findings for most children varied widely, but every child was reported to have experience with a fish. Thus, any differences found in any of the following studies could not be attributed to novelty of the animals unless specific differences were found for the fish versus the other animals. No significant differences for any of the variables were found. Since no differences were found, the questionnaire was only used in Experiment 1.

Procedure

The toys were randomly arranged in the centre of the lab, and the live animal containers rested on small wooden platforms against opposite walls. The children were told that they were allowed to play with anything in the room, and were permitted to play alone for approximately 5–10 min. The child's accompanying parent was seated in the corner of the room throughout the session. The parent was told to limit interactions with the child, and was given paperwork to fill out. However, the children often asked

their parents or experimenter questions about the stimuli during the procedure. In such cases, the parents responded to the children's questions, but did not initiate any of the interactions. A camera videotaped the session.

Coding

In the current studies, we sought to investigate whether children prefer animals to objects. We measured preference by indexing the number of interactions and the amount of time children spent interacting with each stimulus. Thus, the number and duration of every interaction the child had with the animals and toys were coded from films of the experimental sessions. Interactions were operationalized as direct physical contact with the stimulus (or its shelf/cage, in the case of the animals), or verbal mention of the stimulus accompanied by the child looking directly at the stimulus for more than 1 s. We interpret a larger number of interactions and time spent interacting as preference for that stimulus.

Several additional behaviours were coded, including whether the child *gestured* towards, *mentioned* or talked about, and asked *questions* about each stimulus. Gestures were coded as pointing or moving one's hand or arm towards a stimulus without making direct contact with it. Mentions were coded as verbal descriptions or labelling of the stimulus. Questions were coded whenever the child asked the mother or the experimenter a question about the stimulus. Also coded were any negative or fearful responses towards the animals, including references to potential *harm* (e.g., 'It will bite me',) and *prohibitive* statements (e.g., 'Don't touch that'.). A primary coder coded the films of all participants, and a second coder coded 25% of them. Interrater reliability (Kappa) for the codes in Experiment 1 ranged from .90 to .96.

Analyses

There were two types of analyses for Experiment 1. For the number of interactions with each stimulus, total interaction time with each stimulus, and the number of questions asked about each stimulus, we used one-way Mixed Effects ANOVAs. This procedure utilizes all of the data collected instead of using group means and provides a more powerful test of significance (Bagiella, Sloan, & Heitjan, 2000; Gueorguieva & Krystal, 2004). For whether participants gestured towards each stimulus and mentioned or talked about each stimulus, logistic regressions were used, as these variables are binary. Age was not included, because preliminary analyses had indicated no relevant effects. Further, since only one significant effect of gender was found in preliminary analyses, gender was not included.[2]

Results

As predicted, the children had more frequent interactions with the animals than the toys (see Figure 1). Because there were unequal numbers of toys and animals, we could not

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[2] *The questions variable in Experiment 1 indicated an effect of gender. In a follow-up 2 (stimulus: animal vs. toy) by 2 (gender: male vs. female) ANOVA, there were significant main effects of stimulus, $F(1, 841) = 12.1$, $p < .01$, and gender, $F(1, 841) = 19.6$, $p < .01$, with a stimulus by gender interaction, $F(1, 864) = 6.4$, $p < .02$. The boys (0.23) asked more questions overall than the girls did (0.06). Further, the boys asked more questions about the animals (0.48) than the toys (0.14), and while the same was true for girls, the degree was much smaller (animals: 0.09; toys: 0.04).*
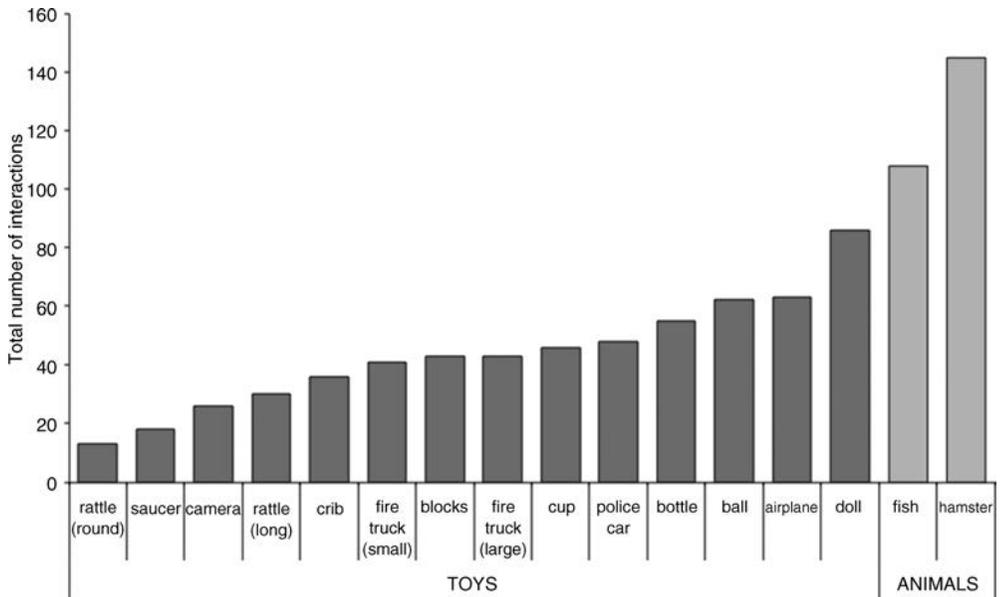
Figure 1. Total number of interactions for each stimulus in Experiment 1. The children interacted more often with the animals than the toys.

statistically compare the groups. Instead, we compared the number of interactions that the children had with the 2 animals versus 2 of the 14 toys. To create the most stringent test of the hypothesis, we compared the animals with the two toys that children had interacted with the *most frequently* – the doll and the airplane. There was a significant difference in the mean *number of interactions* that the children initiated with the two animals ($M = 6.7$) versus the two toys ($M = 3.9$), $F(1, 72) = 12.7$, $p < .01$. However, the children did not spend more *time overall* interacting with the animals than with the toys, $F(1, 861) = 1.5$, *ns*, possibly because they could pick up and manipulate the toys, whereas the animals were in terrariums attached to the wall.

Further, the *nature* of children's interactions with the toys and animals differed, in that they *gestured* more frequently towards the animals (54% of interactions) than the toys (5% of interactions), $\chi^2 = 259.2$, $p < .01$, $R^2 = .26$. This difference could have resulted from the fact that the animals could not be touched or manipulated, so the child had no choice but to gesture to them. More convincing is that fact that they *mentioned* or talked to their parents or the experimenter about the animals (44% of interactions) than the toys (25% of interactions), $\chi^2 = 27.1$, $p < .01$, $R^2 = .03$. They also and they asked more *questions* about the animals ($M = .29$) than the toys ($M = .10$), $F(1, 843) = 11.7$, $p < .01$, providing corroborating evidence that children were most interested in the animals.

The results of Experiment 1 provide some evidence that a preference on the part of young children for live animals over very attractive toys. However, Experiment 1 was largely exploratory, and limited by its lack of controls. For one, interactions with the 2 animals were compared to only 2 of the 14 toys, since the number of animals and toys was not balanced. Experiment 2 further probes children's responses to animals versus toys in a more controlled procedure with a few additional manipulations.

EXPERIMENT 2

The primary goal of Experiment 2 was to examine young children's behaviour towards two different categories of animals – *threat-relevant* and *non-threat-relevant*. Accordingly, children were presented with four animals – the fish and hamster from Experiment 1, and a live snake and spider. A snake and spider were chosen because they are commonly avoided by adults and are considered to be threat relevant in the literature (LoBue & DeLoache, 2008). Previous research has shown that infants naturally associate the sight of a snake with the sound of a fearful voice (DeLoache & LoBue, 2009). However, the infants in that research showed no fearful reactions to the snake stimuli. Thus, it is possible that even though infants tend to associate snakes with fear-relevant stimuli, they might not actually *behave fearfully* towards them. Their parents, however, who know more about the threat-potential of snakes and spiders, might behave differently towards the animals. Thus, in Experiment 2, the responses to animals and toys were examined for both young children and their parents. Again, a free-play paradigm was used to capture children's natural responses to the animals versus the toys.

Participants

Since there were no age effects in Experiment 1, it was unnecessary to use a wide age range. Thus, the age range was narrowed for Experiment 2. The participants were 38 children between 18 and 36 months of age ($M = 28.8$ months), 17 females and 21 males, and their accompanying parents (all but 2 were mothers).

Materials

The materials for Experiment 2 were four toys and four small live animals. The toys were four of the most popular toys from Experiment 1 – the doll, airplane, fire truck, and ball. The animals were a black Tarantula, an orange and black California Mountain King snake, and the beige Sentinel hamster and the blue and red Beta fish from Experiment 1. The spider, snake, and hamster were all in small plastic cages, and the fish was in a small fish bowl. As before, the animal enclosures were fastened to the wall. Like the hamster and the fish, the snake and spider were limited in their mobile ability by the small enclosures. Further, the spider in particular almost never moved during any of the experiments.

Procedure

The procedure for Experiment 2 was nearly identical to that of Experiment 1. The four toys were arranged in the centre of the playroom, and the four animals each stood on a small wooden platform against a wall. The children were allowed to play alone for approximately 5 min while the child's parent was seated in the corner of the room, not interacting with the child. Then, the parent and child interacted together with the toys and animals for an additional 5 min. A camera videotaped the interaction.

Coding

The coding in Experiment 2 was the same as in Experiment 1, with one exception. In addition to coding behaviours for the child, parent interactions with the stimuli (any stimulus-directed looks or actions) were also coded. Interrater reliability ranged from .90 to .99.

Results

The analyses were 2 (stimulus: animal vs. toy) by 2 (age: child vs. parent) Mixed Effects ANOVAs or logistic regressions on each of the dependent variables. As the children first interacted with the stimuli for 5 min on their own, followed by an additional 5 min with the parent present, the analyses include all of the data collected from each interaction (10 min from the child and 5 min from the parents). Preliminary analyses examining children's interactions with and without the presence of the parent indicated that the children had higher total interaction time ($F(1, 1{,}401) = 19.53, p < .01$ [$M = 20.64$ with parent, $M = 14.35$ alone]), asked more questions ($F(1, 1{,}400) = 6.23, p < .05$ [$M = .22$ with parent, $M = .12$ alone]), and were more likely to gesture ($F(1, 1{,}401) = 12.84, p < .01$ [$M = .24$ with parent, $M = .13$ alone]), and mention ($F(1, 1{,}402) = 79.53, p < .01$ [$M = .52$ with parent, $M = .28$ alone]) the stimuli with the parent present than without. However, there were no significant interactions with the type of stimulus, indicating that the children did not behave differently towards the animals versus the toys as a function of the presence or absence of their parents. Thus, the child data presented below are collapsed between with first 5 and second 5 min of interacting with the stimuli.

Number of interactions

As in Experiment 1, both the child and adult participants interacted more often with the animals ($M = 16.8$) than with the toys ($M = 8.3$), $F(1, 152) = 60.2, p < .01$ (see Figure 2). This was significant for both the children, $F(1, 74) = 27.3, p < .01$ (animals $M = 23.7$, toys $M = 13.3$), and for the adults, $F(1, 74) = 54.8, p < .01$ (animal $M = 9.9$, toys
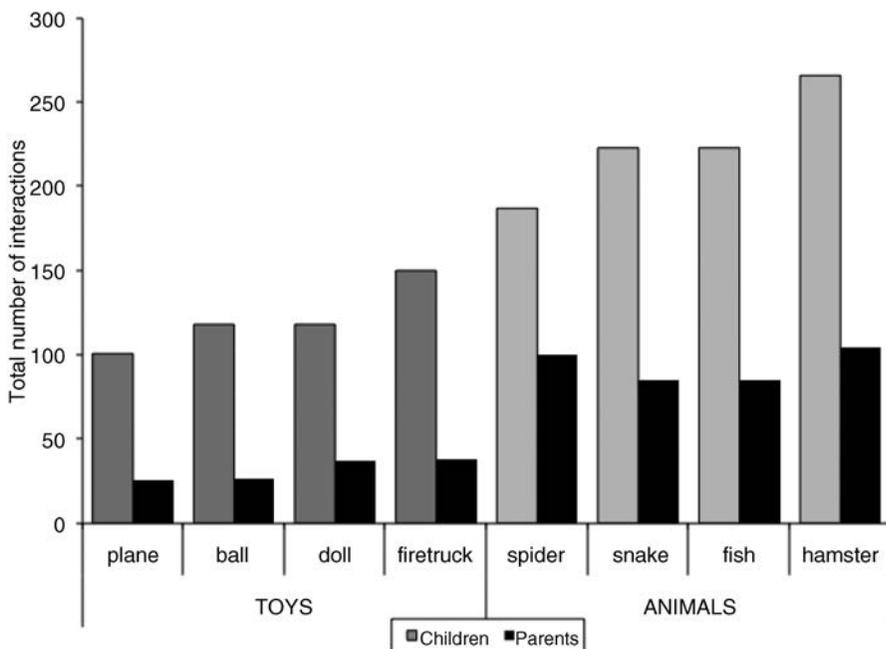

Figure 2. Total number of interactions for each stimulus in Experiment 2. Both the adults and children interacted more often with the animals than with the toys.

$M = 3.4$). Further, every child interacted with every animal at least once, but that was not the case for any of the toys.

Total time of interactions

In contrast to the *more frequent* interactions with the animals than with the toys, the children spent more *time* interacting with the toys ($M = 22.0$ s) than the animals ($M = 15.2$ s), $F(1, 1,905) = 3.9, p < .05$, ($M$ toys $= 23.9$ s; (M animals $= 13.5$ s), $F(1, 1,404) = 43.5, p < .01$. However, the adults did the opposite, spending significantly more time interacting with the animals ($M = 19.4$ s) than with the toys ($M = 15.1$ s), $F(1, 501) = 4.6, p < .05$. This age by stimulus interaction was significant, $F(1, 1,905) = 22.9, p < .01$. Because the children could not actually manipulate the caged animals, it is not surprising that even though they interacted more frequently with them, they spent less time with the animals than the toys.

Nature of interactions

As in Experiment 1, the *nature* of the participants' interactions also differed for animals and toys. They were more likely to *mention* the animals than the toys, $\chi^2 = 4.1, p = .05$, and the adults were more likely to talk about or *mention* each stimulus than were the children (96% of interactions vs. 38%), $\chi^2 = 589.0, p < .01, R^2 = .27$. The main effect of stimulus was significant for the adults (97% for animals, 93% for toys) $\chi^2 = 4.4, p = .04, R^2 = .03$, but not the children (40% of interactions for animals, 36% of interactions for toys), $\chi^2 = 2.6, ns, R^2 = .00$.

Similarly, both adults and children asked more questions about the animals ($M = .67$) than about the toys ($M = .26$), $F(1, 1,904) = 67.2, p < .01$, and the adults asked more *questions* overall (1.57) than the children did (.16), $F(1, 1,904) = 281.4, p < .01$. However, a significant stimulus by age interaction, $F(1, 1,904) = 57.3, p < .01$, indicated that only adults asked significantly more questions about the animals ($M = 1.85$) than the toys ($M = .77$), $F(1, 501) = 30.7, p < .01$. Although children showed the same pattern, it was not statistically significant ($M = .18$ for animals, and $M = .13$ for toys).

Participants were also more likely to *gesture* towards the animals (43% of interactions) than the toys (9% of interactions), $\chi^2 = 148.2, p < .01$, and adults (30% of interactions) more often *gestured* towards the stimuli than the children did (6% of interactions), $\chi^2 = 42.7, p < .01, R^2 = .10$. This main effect of stimulus was significant for both the children, $\chi^2 = 93.2, p < .01, R^2 = .11$ (6% for toys and 25% for animals) and the adults $\chi^2 = 55.5, p < .01, R^2 = .14$ (9% for toys and 43% for animals). Again, this effect could be due to the fact that the children could not touch the animals.

Negative statements

There were a few differences in children and adults' negative comments about the animals (no negative comments were made about the toys). Both adults and children more often said that the threatening animals could cause *harm* to them (2% of interactions) than the non-threatening animals (0% of interactions). However, these cases were extremely rare (there were only eight instances), but they were only made about the snake (six) and the spider (two) (e.g., 'That snake is ouchie', and '... he's going to bite my belly') – they were never made about the fish or hamster. Similarly, participants made more *prohibitive* statements about threatening (21% of interactions) than non-threatening animals (7% of interactions). This was statistically significant in a

2 (parent vs. child) by 2 (threatening vs. non-threatening animal) Mixed Effects ANOVA, $F(1, 1,271) = 8.4, p < .01$. However, there was also a significant interaction $F(1, 1,271) = 15.9, p < .01$, which, when broken down, indicated that only adults made prohibitive statements, (e.g., 'Don't get too close to that', and 'Don't touch'.).

These results replicate those of Experiment 1, and demonstrate that children interact more often with animals than with toys. Experiment 2 also extends this result to parents, showing that they are more likely to direct their children's attention to animals than toys, spend more time with animals, talk more about animals, and ask more questions about them. Finally, the results of Experiment 2 also demonstrate a tendency for both children and adults to behave more cautiously towards threat-relevant animals than non-threat-relevant animals.

EXPERIMENT 3

Experiments 1 and 2 used a free-play session to examine infants' behaviour towards animals and toys. This design has several strengths (such as strong ecological validity), but also lacks some controls. The primary goal of Experiment 3 was to use a more controlled procedure to examine children's attention to animals versus toys. First, we presented children with pairs of perceptually similar real animals and toy animals to control for appearance or perceptual characteristics of the stimuli. Second, to control for the fact that only the animals (and not toys) were attached to their displays in Experiments 1 and 2, both the real animals and the toy animals were attached in Experiment 3.

Participants

The participants were 20 18- to 33-month-old infants ($M = 27.2$ months, *range* = 18.1–32.8 months), half male and half female, and their accompanying parents. In all but two cases, the parent was the mother. Two additional participants were excluded because of experimenter error, and 10 additional participants were excluded because of refusal to interact with the displays without their parent. It is likely that several participants refused to interact without their parent because the displays were covered by a cloth and were not visible to the child upon entering the room, thus creating an ambiguous situation.

Materials

The materials were three pairs of stimuli, each including a live animal and a toy that resembled the live animal. Both the animal and the toy were attached to a shelf so that the children could not lift or manipulate either stimulus (width = 30.5 cm, length = 78.7 cm, height = 29.8 cm). The live animals included a green gecko in a terrarium, as well as the beige Sentinel hamster and blue and red Beta fish from Experiments 1 and 2. The toy animals consisted of a plastic gecko, a stuffed hamster, and a plastic fish. The toy animals were not enclosed but attached to a display.

Procedure

The participants saw three displays pairing a live animal (hamster, gecko, and fish) with a toy version of the same type of animal. At the start of the experiment, each stimulus pair was covered with a sheet. The experimenter unveiled the first display and

simply asked the children what they saw. As before, parents were asked to remain silent and avoid contact with the child. After approximately 30 s, the researcher invited the children to show their parents what they had seen. The parent was told to interact only in response to the children's questions, as in Experiment 1. Parents were included in order to assess whether children would interact with the stimuli more with their parents present than when alone (replicating results of Experiment 2). After the child had seen each display, the experimenter re-covered it with a sheet and moved on to the next display, repeating the same procedure. The order in which the animal/toy pairs were presented was counterbalanced (and had no effects in any of the analyses presented below). A camera videotaped the interaction.

Coding

As in Experiments 1 and 2, the main variable of interest was the overall interaction time for each stimulus. Since both the animals and the toys were attached to the display and the children were presented with each display individually, it was impossible to code the number of interactions since most occurred in very close range and often simultaneously. Thus, only total time was coded. Interrater reliability was 91%.

Results

The main question of interest in Experiment 3 was whether the children would spend more time interacting with the animals than the toys in a more controlled setting. Further, as in Experiment 2, we also asked whether the children would interact more with the animals when their parents were present versus when they were told to explore alone. In a 2 (stimulus: animal vs. toy) by 2 (parent: present vs. not present) ANOVA on the total time children spent interacting with each stimulus, there were main effects of stimulus, $F(1, 236) = 82.8$, $p < .01$, and parent presence, $F(1, 236) = 24.0$, $p < .01$, as well as a stimulus by parent interaction, $F(1, 236) = 11.8$, $p < .01$. Overall, the children spent more time interacting with the real animals ($M = 38.7$ s) than the toy animals ($M = 14.2$ s). They also spent more time interacting with all of the stimuli when the parent participated in the interaction ($M = 33.1$s) versus when the parent did not participate ($M = 19.9$ s). The stimulus by parent interaction indicated that the children spent significantly more time with the real animals when the parent participated ($M = 49.9$ s) than when the parent did not participate ($M = 27.5$ s), $F(1, 118) = 23.0$, $p < .01$. This pattern was also present for the toy animals, but was not significant (with parent $M = 16.2$ s, without parent, $M = 12.3$ s), $F(1, 118) = 2.2$, *ns* (see Figure 3).

   The results demonstrate that children spend more time interacting with animals than with toys even when they cannot directly manipulate either. Further, as shown by Experiment 2, children spend more time interacting with animals with their parent present than when they were alone, suggesting that parents actively direct their children's attention towards animals.

GENERAL DISCUSSION

The current experiments examined the extent to which children and adults pay particular attention to animals. The most important finding is that in all three experiments, children more often chose to interact with live animals than with toys. The quality of their
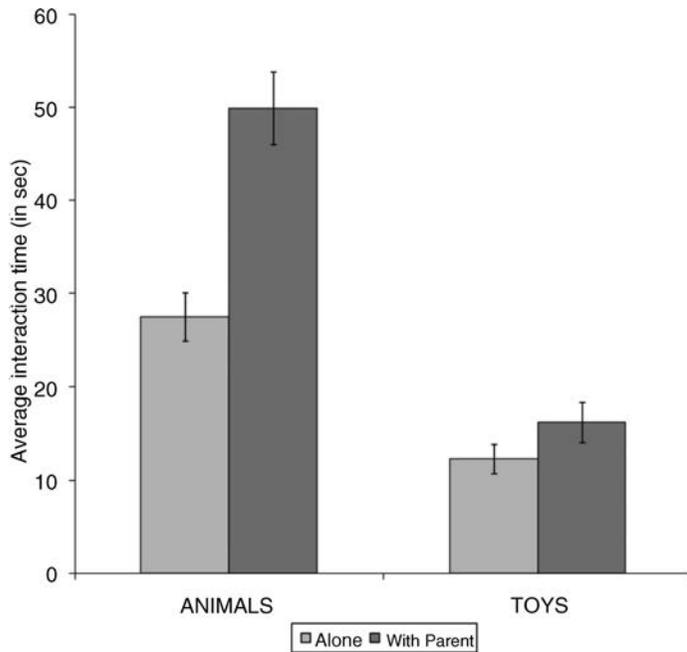
Figure 3. Total time children spent interacting with each stimulus in Experiment 3. The children spent more time interacting with the animals than with the toys. This was especially evident when the parents participated in the interaction.

interactions also differed: they gestured more towards animals, talked about animals more, and asked more questions about animals than the toys. Together, these findings highlight the interest that both children and their parents have for live animals.

The second finding is that parents play an active role in mediating children's relationship with animals, spending more time directing their children's attention to animals than to toys. Like their children, parents gestured more towards animals, talked more about them, and asked more questions about the animals than the toys. Further, children spent more time interacting with the animals when their parents participated in those interactions than when they were alone. This was not true for toys. Thus, parents might play an important role in directing their children's attention to animals, possibly contributing to their children's interest.

Third, the results reported here reveal slight differences in how children and adults behave when encountering threatening versus non-threatening animals. More specifically, although children and adults were equally interested in both types of animals, they were more cautious when interacting with threatening ones. It is important to point out that although these differences were significant, they were subtle and avoidance behaviours were extremely rare. Many researchers might find these results surprising, as they suggest that children *prefer* snakes and spiders to a group of highly attractive toys. However, the snake and spider were in cages, creating a safe environment for the child, and the parent to interact. If they were presented with a snake or spider in their back yards, they may not have reacted with such interest.

It is also important to note that the major reason children might be attracted to animals over toys is that animals are animate objects and toys are not. In the current set of studies,

we did not control for animacy. We could have used comparison stimuli that were also animate, such as robotic or otherwise moving toys to control for animacy (Kidd & Kidd, 1987). However, even though this would have provided a more stringent control, motion produced by artefacts is quite different than the movement produced by living things. In fact, previous work has shown that infants prefer point light displays of animals moving than the movement of highly attractive objects (e.g., cars, windmills) (Bloom Pickard *et al.*, 2012). Further, Kidd and Kidd (1987) contrasted animals with moving toy animals, and still found preferences for the non-human animals. Thus, although animacy might contribute to children's preference for animals over objects, it certainly cannot fully account for the phenomenon.

In conclusion, the current results highlight behaviours that can be commonly observed in parks, zoos, and in homes, revealing children and adults' common interest in animals. Future research would be important in discovering *why* both children and adults show more interest in live animals than other objects, and whether there are any potential benefits that can be gained by children's avid interest.

Acknowledgements

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