Animals in the Lives of Children

by Ruth Wilson

Connections—including connections with animals—play an important role in the quality of our lives. While an adult might define quality of life in terms of well-being, a child might describe it as a "life that is really good." Twenty children with attention deficit hyperactive disorder were once asked to describe a time in their life that was "really good" for them. The children drew a picture about that time and then talked to a researcher about what they had drawn. The children's responses indicated that three main elements made their life "really good." These elements were activity, nature and connections (Barfield & Driessnack, 2018). We find these same three elements coming together in the connectedness-to-nature research, especially when focused on children.

Children and Animals

Some of the connectedness to nature research focuses specifically on preschool-aged children and their interactions with animals. David Sobel (2008), for example, identified "developing friendships with animals" as a universal play motif with young children. Another researcher, Matteo Giusti (2018), identified "involvement with animals" as one of the key experiences that influence children's connection to nature. Giusti's work focuses on developing environments for children that help them connect to nature. He refers to such environments as "nature-connecting habitats" for children, and identified the presence of animals as an integral part of such environments. Giusti emphasizes the importance of children learning to be not only "in" and "for" nature, but also "with" nature. Being in an animal's presence—and being present to the animal—may be one of the most memorable experiences a child can have of being with nature.

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Memorable experiences with wildlife tend to remain with an individual over time and can strongly influence people's bond with local natural places. This phenomenon was evident in a group of adults who participated in walk-along interviews with a researcher as they visited a favorite green place near their homes. The interviews focused on nature-related experiences during childhood and their current bond with the local green place. While the wildlife experiences of the participants varied greatly, individual animals played a role in the development of place attachment. Unexpected encounters with wildlife (fox, deer, snakes, flamingos) were perceived as gifts—and, at times, led to "feelings of being privileged and rewarded by a place" (Folmer et al., 2019).

Other research conducted by Peter Kahn and his colleagues (2018) identified "co-habiting with a wild animal," "observing animals," and "imitating animals" as keystone interaction patterns exhibited by children at a nature preschool. Children's engagement in these and other interaction patterns are described as being deeply meaningful and joyful.

Co-habiting

One example of co-habiting described by Kahn and his co-researchers (2018) involved two preschool children, a teacher, and an earthworm. One child, while pushing a wheelbarrow in his construction area, came close to running over an earthworm. He stopped just in time to avoid hurting the worm. Another child, watching this—and initially showing some aversion to the worm—soon seemed fascinated by it. An observant teacher noticed what was going on. She picked up the worm and placed it in her hand. She showed it to the child who had been initially hesitant about being close

to the worm. The boy with the wheelbarrow took the worm from the teacher's hand and placed it some feet away from where they were standing. In this instance, both children were co-habiting with the worm—the one child, by just being in its presence; the other, by placing it in a safe place. The teacher, by bringing it to the attention of the children, played an important role in the process.

The encounter with the worm, in this case, was an unplanned happening with young children. Encounters with wild animals can also be planned. Some schools are doing this as a part of their green yard initiative, which involves transforming barren grounds into nature-rich environments. At preschools, these areas are sometimes referred to as natural play spaces and often include trees, bushes, gardens, rocks and other natural elements. While a plant-rich environment tends to invite wildlife, some schools are being even more intentional about including wildlife in their outdoor play and learning environments. Some schools do this by planting butterfly gardens, establishing and maintaining bird feeders and bird baths, and creating a "mini-beast" area, where such critters as snails, spiders and earwigs can thrive. Some schools have even established beehives. In one school where this was done, children's attitudes about bees changed from fear to fascination and appreciation (Cho & Lee, 2018).

Numerous examples from related research support the idea that "co-habiting with a wild animal" and "developing friendships with animals" are common experiences for young children. Do such experiences foster children's development? Research suggests that they do. One study showed that encounters with dead and dying bees shifted children's views and practices away from relating to bees predominantly as objects of scientific knowledge toward a more caring and complex relationship (Nxumalo, 2017). This shift proved to be good for both the children and the bees. The change occurred after one of the teachers noticed that the apple tree in the playground had not flowered that spring and that there were few bees in the playground. The bees that were present were either dead or moving slowly on the ground.

After learning that the bumble bees in the yard are generally not aggressive unless threatened, the children became more comfortable being close to the bees and co-habiting with them. The children were soon practicing stillness and moving slowly while close to bees still showing signs of life. Some children offered flowers and sugary water to the bees. They touched the wings and the "soft fur" of dead bees and provided covering to keep them from blowing away. The children's encounters with the bees helped them develop ecological perspective taking and gave them opportunities to practice empathy. Of course, their encounters with and discussions about the bees also helped the children develop scientific knowledge and skills.

Observing Animals

"Looking at wild animals"—another keystone interaction pattern identified by Kahn and his colleagues (2018)—can be both an individual and social experience. Many of us, when we discover something fascinating about an animal, are inclined to draw others into our observation. I witnessed this firsthand with a 3-year-old child with autism. While this example relates to a baby chick versus a wild animal, it illustrates the potential benefits of children observing animals.

I was teaching at a university at the time and had the opportunity to observe student teachers working with young children with disabilities. During one of my visits, a mother had just arrived with her 3-year-old daughter who had autism. It was early November, and the child had not spoken a word in school since she first started in September. As the mother stopped to talk to the teacher, the child walked over to a table where eggs had been incubating for the past several weeks. As the child watched, a chick started pecking its way out of an egg. The little girl ran back to her mother, grabbed her mother's arm, and clearly said "Look!"

While the hatching of the chick was a surprise to the child, the child's first spoken word in the classroom was an even greater surprise to the mother and teacher. The child making eye contact with her mother during this interaction was also unusual, as making eye contact tends to be challenging for

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some people with autism. The mother noted how making eye contact had rarely occurred with her child, even at home.

What I observed that day in the classroom is similar to what some research studies report about the social benefits of engagement with animals for children with disabilities. One such study found that children with autism spectrum disorder talked more to people, looked more at faces of people, and made more physical contact with humans in the presence of two guinea pigs compared to a selection of age-appropriate toys. The children with ASD also received more positive social approaches from their peers in the presence of animals compared to toys. Additionally, the children with ASD displayed more positive affect (such as smiling and laughing) and less negative affect (such as frowning or whining) while in the presence of the guinea pigs. This study suggests that the presence of an animal can promote increased social interaction for children with ASD (O'Haire et al., 2013). Other studies have found similar results (Valiyamattam et al., 2020).

The fact that animals can serve as "social lubricants" (O'Haire et al., 2013) or "social facilitators" (Valiyamattam et al., 2020) for children with disabilities supports the use of animals in therapeutic sessions. It also supports the use of animals in other intervention and educational settings, including classrooms and homes. Of course, the presence of animals can support the development of typically developing children, as well as children with special needs. In "Connecting Animals and Children in Early Childhood," Patty Born Selly (2014) discusses how animals in the lives of young children can promote all areas of development, including social-emotional, cognitive, physical, and ecological. Related research supports these claims (Endenburg & van Lith, 2011).

Born Selly (2014) also notes that while family and classroom pets can promote children's development, encounters with wild animals tend to offer "something extra-special," even if these encounters are with such common creatures as butterflies, squirrels and birds. She notes how wild animals in their natural habitats make them more interesting and exciting to children. Observing animals in their natural habitats helps children realize that animals have homes, but that their homes are different from ours. The children are likely to notice, as well, that almost all of the animal homes are built by the animals themselves. The children may also notice that many wild animals have "special powers"—some fly, some live underground, and some hibernate for months at a time.

Unfortunately, not all children have frequent opportunities to observe or interact with animals, especially "non-pet" animals. Not all young children are even aware of the fact—or comfortable with the fact—that a variety of wild animals live right outside their door. I once asked preschool children if they thought they could find wildlife in their backyard or neighborhood. The answer from several children was a definitive "no." Only a few children seemed to think that wild animals might live near their homes or schools. One child told me that my question was a "silly question." Children's unfamiliarity with common wild animals is a concern that needs to be addressed, as the benefits of young children engaging with animals are too great to be dismissed.

Imitating Animals

"Imitating animals"—a common play activity for children—is another keystone interaction pattern of children interacting with nature. One example from the Kahn et al. study (2018) involved a young girl imitating the physical actions and vocalizations of a domestic housecat. An interesting aspect of this example is the child making eye contact with a peer as a way to extend this interaction to another person.

Another example of young children imitating animals is from research conducted in Australia (Taylor & Pacini-Ketchabaw, 2016). The focus of the study was on young children's encounters with large mobs of kangaroos in the grasslands of a university campus. The children showed a strong interest in getting a close-up look at the kangaroos. Over time, the children became more confident in getting closer and closer to the mob. As the children grew closer and spent more time near the kangaroos, they began to notice differences between themselves and the kangaroos. They often

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experimented with what it would be like to live in a kangaroo's body. They found or made big tails, attached them and hopped around. They put their hands on their heads to mimic the action of the protruding swiveling ears. After observing the carcass of a dead kangaroo, the children even pretended to be dead and dying kangaroos.

Animals and Children with Autism

While interacting with animals is beneficial for all children, it may be especially helpful for children with autism. Children with autism spectrum disorder tend to demonstrate visual abnormalities, which often include significantly decreased attention to the eyes and to socially salient information. Children with ASD often fail to make eye contact and to look at someone when they speak. Such visual abnormalities are associated with an overall reduced social inclination and are manifested as deficits in pointing, showing objects, looking at others, orienting to name, social smiling, shared affect and social vocalizations.

Visual abnormalities in children with ASD begin as early as 2-6 months of age. This phenomenon may be due to neurobiological deficits in perceiving social stimuli as rewarding. It may also reflect anxiety, a common characteristic of people with ASD. The presence of animals can make people and scenes appear less threatening (O'Haire et al., 2013). This phenomenon tends to reduce social anxiety and may thus help children with ASD be more socially interactive (Valiyamattam et al., 2020). Anxiety for people with ASD is often associated with increased aggression, conduct problems, depression, self-injury, insistence on sameness, and irritability (Mesibov et al., 2004). Exposure to natural environments, including animals, may lower stress and anxiety and potentially minimize some of the associated problematic behaviors (Barakat et al., 2019; Bratman et al., 2015; Kuo, 2015).

A recent study compared the visual attention to animal and human faces in children with ASD and typically developing children. Not surprisingly, the typically developing children showed significantly greater social attention to both human and animal faces than the children with ASD. However, the children with ASD showed significantly greater attention to animal faces than to human faces.

This finding suggests that children with ASD may experience greater social reward and less social anxiety in the presence of animals versus humans. Other researchers have reported similar findings (Valiyamattam et al., 2020). This research also lends support to the use of animal-assisted intervention for children with ASD. AAI is a type of intervention that incorporates animals in the treatment process, and has proven to be quite effective in helping children reach their therapeutic goals.

Animal-assisted interventions are used effectively with many children experiencing physical, emotional, and/or social difficulties; but such interventions may be especially helpful for children with ASD (Petty et al., 2017). Animals used in AAI for children with ASD include dogs, guinea pigs, llamas, rabbits, and horses. Positive results of AAI for children with ASD include increases in social interaction and communication skills and decreases in ASD symptom severity, stress, and problem behaviors (O'Haire, 2013). Improvement in social interactions is the most common desired outcome (O'Haire, 2013).

Children on the autism spectrum often have difficulty interpreting intent behind human actions. They are more likely to be successful in interpreting intent in animals. A horse reaching for leaves on a tree is a likely indication that the horse wants to eat. A dog rolling over on its back is an invitation for a belly rub. A child with ASD probably experiences less stress in trying to comprehend what an animal needs and wants, versus what a human may be seeking. In working with children with ASD, it may thus be helpful to encourage them to think about what an animal needs or wants.

Co-habiting with an animal may also be especially helpful for children with ASD and other forms of disability. Animals are non-judgmental and make fewer demands than humans. An animal accepts the child as he or she is, and does not ask the child to conform to any standards of what is "normal." This acceptance can be comforting and calming for children with disabilities.

Supporting positive connections between children and animals can promote empathy and other areas of social-emotional development (Born Selly, 2014). For children with special needs, this can be especially important, as social-emotional skills play a major role in how well they interact with adults and peers and how positively they view themselves.

Affordances in nature and animals may help children with autism become curious and show interest in nature-related happenings. At times, this interest then prompts positive interaction with others (Bystrom et al., 2019). This phenomenon was observed in children who were participating in a treatment program located on a small farm with animals and surrounding natural environment. While at the farm, children

engaged in such activities as horse-back riding, playing outdoor games, and caring for the animals. Data collected over a period of 18 months indicated that the program was effective in reducing stress, awakening curiosity and interest, prompting spontaneous attention, and vitalizing energy. The researchers concluded that the soft and repetitive movements occurring in nature and animal behavior played a role in reducing stress and promoting calmness in the children with ASD (Bystrom et al., 2019).

Encourage children to think about what an animal needs (food, water, shelter and so on,) and what it may be feeling (afraid, safe, excited, warm, cold).

Clemens Arvay, an Austrian biologist, also speaks to the special benefits of human-animal interactions. He explains in scientific terms how being in the presence of an animal can have a positive effect on our immune system and how this can activate our self-healing powers. He also discusses the effectiveness of animal-assisted interventions in promoting the physical and mental health of people of all ages. In his book "The Healing Code of Nature," Arvay (2018) devotes an entire chapter to the healing bond between humans and animals. His most recent book addresses the power of nature in supporting the development of children with ASD (Arvay, 2021).

Promoting Connections Between Children and Animals

The many benefits of connecting children with animals invite some thought as to what parents, teachers, and other adults can do to promote positive interactions between children and animals. Here are just a few ideas.

1. Spend a lot of time outdoors. Look for animals and signs of animals. Try to discover where the animals live. Look for nests and burrows. Look under logs and rocks. Remember, you might hear a bird before you see it. You might not see a deer or a squirrel, but you might find their tracks in the mud or sand. Look for clues about what the animals eat. Can you find partially-eaten leaves or teeth marks on the bark of a tree?

2. Provide observational tools such as magnifiers, hand lenses, children's binoculars, and simple guidebooks. Do not rush the process. Time with an animal is one of the necessary factors in promoting understanding of and empathy toward that animal (Young et al 2018). Empathy for creatures is recognized as an important factor in children's connection with nature (Cheng & Monroe, 2012).

3. Encourage children to imitate animals. Provide props for animal costumes (wings, beaks,) and natural materials for making nests and dens. A modified form of yoga can also encourage children to imitate animals. You might encourage children to take a "flamingo pose" (standing on one foot) or a giraffe pose (standing tall with a stretched-out neck).

4. Encourage children to think about what an animal needs (food, water, shelter and so on,) and what it may be feeling (afraid, safe, excited, warm, cold). With this strategy, there is no need to shy away from children's tendency to use anthropomorphism in talking about animals. Anthropomorphism involves attributing human characteristics and/or behaviors to non-human entities. Children often do this naturally, as they give the animals human-like individuality, motivations and experiences. The process usually draws attention to similarities children see in themselves and animals. Seeing such similarities tends to make animals more relatable and can help children better understand or empathize with animals (Young et al., 2018).

5. Engage children in the care of animals. You can do this by planting a butterfly garden, establishing a bird bath and/or bird feeder in the yard, protecting a nest on the ground or in a tree, providing short strips of yarn for the birds to build their nests, and having one or more classroom pets (fish, land snail, guinea pigs).

6. Pay attention to the language you use in reference to animals. Calling an animal a "pest" does little to foster positive attitudes toward other living creatures. Pronoun choice, too, can influence a child's sense of connection with an animal. Referring to an animal as "him" or "her" instead of "it" moves the animal from an object to an individual with a particular perspective (Young et al., 2018). Asking "Who is this?" instead of "What is this?" highlights the aliveness of a living creature.

7. Engage the imagination. According to some reports, the most well-researched method for building empathy is activating the imagination (Young et al., 2018). When the goal is connecting children with animals, engaging the imagination can take the form of storytelling, role-playing, and mimicry. One of the keystone interaction patterns identified by Kahn and his colleagues (2018) involves "imagining nature to be something other than it is." An example provided by Kahn is of a child using a stick as something she can ride. At first, the stick is called a "train"; it later becomes a "horse."

Encounters with animals—especially non-pet animals—can be awkward and messy (Taylor & Pacini-Ketchabaw, 2016), yet such encounters can contribute to the "making of a life that is really good" for children with and without disabilities. Childhood engagement with animals can also foster environmental awareness and ecological perspective taking, which, in the long run, may lead to a more harmonious relationship between humans and the rest of the natural world.

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