

Adolescence Across the Animal Kingdom

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What IS adolescence? We can define it by age, grade, or physical and cognitive changes. But it's more than that—adolescence is a critical window of development in which we begin to explore and discover the world outside of our families.

There is a notion that this period of time might be a social invention, that the opportunities and vulnerabilities faced by youth are features of the modern human world. But in fact, research has shown that many non-human species also have a period of intense learning and development between childhood and full adulthood. Understanding the similarities and differences between species can give us new insights about the fundamental nature of adolescence.

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Our [latest podcast episode](#) explored adolescence around the animal kingdom with Harvard anthropologist [Rachna Reddy](#) and bestselling author [Barbara Natterson-Horowitz](#).

We talked with NSCA member and UC Berkeley professor of psychology and neuroscience Linda Wilbrecht about these interviews to find out what else we can learn about our own *human* adolescence from the rest of the natural world.

“When you look across the animal kingdom at different adolescent animals fledging from the nest, leaving burrows, you see what a heroic journey these animals are on,” she said. “It really takes your breath away to start thinking about the power of adolescence and what the brain must be going through to take on all of these new experiences and to learn so much at this time.”

New experiences and trial-and-error learning are key features of this post-juvenile period in many species, as animals from chimpanzees to hyenas to songbirds transition from the protection of a parent to navigate the physical and social challenges of their adult worlds.

Linda explained that animals need to disperse—to leave their relatives, packs, and the places where they were born—to avoid inbreeding, and this often happens during adolescence. This may require long distance travel, trying out new places, and exposure to predators. These adolescents need to explore their new environments to learn when and how to find food and water. And even once they settle down, new social challenges are sure to arise.

“It’s no wonder adolescents are more open to new experiences,” Linda said. “They can show an extraordinary ability to shift and be flexible, to learn one thing and then learn another.”

Adolescents may even have a special “instinct to learn”—a term used by the great biologist Peter Marler to describe development in songbirds. Linda explained this learning process. Adolescent songbirds will sit near singing adults and listen intently to their songs. Over the weeks (and sometimes months) they pick and choose whose song they want to imitate. They then go through multiple and sometimes messy stages of practice, until at last they create their own perfected song.

Often the learning of the adolescent period involves taking risks. In her book [Wildhood](#), Barbara Natterson-Horowitz describes how adolescent sea otters, often in groups, dart into the territory of great white sharks. This risky group behavior may look crazy, but is likely an adaptive process that helps adolescents learn about the patterns of predators so that they can survive as adults.

“I think one of the most exciting findings in adolescent research is emerging from the work of Rachna Reddy and her colleagues,” Linda said. For example, she said, while in many species males have been observed to disperse farther than females and show more risky behaviors, Rachna’s work calls attention to the incredible risks and challenges faced by female adolescent chimpanzees.

In the podcast, Rachna explained that during adolescence, female chimps, not males, are the ones to leave their families to join a neighboring group which has historically been hostile to the young female’s family and may even have killed their relatives. Nevertheless, the adolescent females bravely explore this hostile territory and eventually leave home to join one of these other troops. Once there, they must quickly learn to navigate complex social hierarchies of other females. This period is critical because their position in the hierarchy may affect their ability and their offspring’s ability to gain access to food for a lifetime.

“There’s so much going on in the adolescent female brain then, right?” said Linda. “Imagine what promotes this bravery, information gathering, and sensitivity to what’s going on! It is not a trivial time at all for these females. It is gravely serious that they make the right choices and do well.”

Of course, no one can understand human adolescence just by looking at animals. But studying exploration and learning during this period across many species can shift our perspective on the importance of adolescence in our own development.

“We can use studies of animals to help think about when we should invest in human development, when it is best to intervene when we can’t afford to intervene at all ages,” Linda said. “Adolescence is this moment of blossoming of plasticity when we see big responses to changes in opportunities. Interventions that benefit adolescents may have big impacts for the future.”