

Ethology: A Study in Animal Behavior and the
Complexity of Their Actions
“Your Name Here”
Southern Wells High School
“Complete Date Here”

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Abstract

The purpose is to explore animal behavior and the complexity of their actions. The goal is to help reveal the connection between humans and animals, thus explaining human fascination with every species. The goal will be obtained by addressing several objectives. First, an explanation of how studying animal behavior affects how humans study psychology and social studies will be stated. By studying these interactions among animal scientists can perhaps better our own interactions between ourselves. Secondly, five main behaviors will be discussed such as: aggressive, sexual, social, parental and instinctive behaviors. All five behaviors help to bridge animal loyalty, individualism, and commensalism. Thirdly, the difference between learned behaviors and instinctive behaviors among animals will be focused upon. A level of environmental and genetic influences may be involved with contrasting and comparing these two types of behaviors. Finally, highlights about the courting and mating behavior of animals and the purpose of social grooming will be mentioned.

Keywords: animal behavior, aggressiveness, parental instinct, courtship, grooming

A Study in Animal Behavior
Hierarchy among Animal Species
Ethology

Ethology, the study of animal behavior is still a new frontier for scientists (Freedman, YEAR). Ethology, a combination of evolution, ecology, physiology, genetics and psychology, has just come about within the last two decades (Raven, YEAR). Animals are a vital component in the history of the world. For instance, the Bible mentions some 100 kinds of animals. In this modern age some Hindus still worship snakes and bulls as incarnations of divine beings (Carmichael, YEAR).

Humans have been intrigued for years at how the most basic creatures can do the most complex tasks, such as finding a home, weaving a web or sing a song with little or no instruction (Encarta, YEAR). Animal behavior, one of the most important properties of animal life, is the part of a particular organism and the animal's environment. The role of animal behavior plays a critical role in biological adaptations. Animal behavior also gives some of the first warning signs of environmental disruption (Miller, YEAR).

The human body and other mammals share many similarities, such as anatomical structure, from cells to vital organs. Human refusal to accept their psychological kinship to animals is blamed on our inadequate understanding of animal behavior (Carmichael, YEAR). The methodology used to study animal behavior has had a significant impact in the psychology world (Snowdon, YEAR). In many ways humans are still much more advanced and sophisticated than animals but the comparison of humans to animals still remains controversial (Slater, YEAR).

Aggressive Behavior

A decent portion of animal behavior concerns the resolution of conflicts (Slater, YEAR). Peace will occur in groups of animals will remain as long as a subordinate stays submissive. A submissive animal will often groom a dominant animal, as a soothing action and a way to build trust. This is also evident in the petting of domestic animals by their owners (Benyus, YEAR). Cats change their posture as a show of submission to de-escalate the confrontation (Slater, YEAR). Jamaican anoles extend their bright-orange dewlap to demonstrate their aggression (Miller, YEAR).

Animals "play" to establish dominance between animals. This helps create alliances that will be of use in future instances. There are six ways that animals avoid conflict. They keep their distance from other group members. They make excuses for being close, such as greeting, playing or grooming. Animals avoid causing extreme arousal or frustration. They make displays of submission. Animals behave predictably; not arousing fear or aggression. They divert their attack elsewhere by taking out frustrations on an inanimate object instead of an equally dominant member of the group. "For all practical purposes, animals are diplomats, not warriors. They will go to great lengths to avoid a physical confrontation, and acts of extreme or fatal violence are rare" (Smith, personal communication, April 1, YEAR).

Sexual Behavior and Courtship

Sexual Behavior was being researched as early as 1913, by a German biologist, Johann Regen. Regen studied the chirps of a male European field cricket. He found, in conclusion that female crickets respond only to the chirps and trills of males of their own species (Alexander, YEAR).

In most cases the male is the more active partner in the act of courtship and females tend to be more cautious about who they mate with (Slater, YEAR). Mammals are more likely than birds to practice promiscuity or polygamy (Crook, YEAR). Cats are particularly violent in the acts of courtship. Actually, modern courtship is becoming non-existent in some species, with commercial breeding and an increased use of artificial insemination (Holt, YEAR).

First, the male lion makes his intentions known with a "mating grimace". In the mating grimace the male exposes his teeth and rolls his head from side to side silently. His actions are similar to that of the defensive snarl (Benyus, YEAR). Some sexual signals however are not quite as physical. For example, bird songs, cricket calls or firefly flashes (Alexander, YEAR).

If the lion female doesn't immediately crouch down into the mating posture she will engage in a mating chase in which she leads the male around with her tail looped high. When she is ready to mate she crouches into the presenting posture she lowers her forequarters and elevates her hindquarters. Females solicit the males by circling him, rubbing against him or crouching in front of him. Females actually initiate courtship in 57% of the cases studied (Benyus, YEAR).

Female lions come into heat every three to four weeks. The first male that approaches her while she is in heat becomes her temporary consort. Usually other males don't challenge him. On average the female lion will mate every 15 minutes while she's in heat. In one study a specific male mated with the same female 157 times in a 55-hour period. The male is more promiscuous than the female because he has less of an "investment" in his offspring (Benyus, YEAR). The term "parental investment" is used to describe the contributions of each parent (Raven, YEAR). His mind possesses a "quantity over quality" standpoint. About 95% of male

mammal species are non-monogamous (Benyus, YEAR).

Throughout copulation the male forces a light neck bite on the female, while she growls and displays an aggressive threat expression. The male meows during copulation and wears the defensive threat expression. He lets out a long drawn out "yowl" during ejaculation (Benyus, YEAR).

Another demonstration of active courtship can be found in giraffes. Bull giraffes are known to rub the neck of a female as an act of courtship. Some species of large slugs have a long, complicated courtship ritual before they mate (Slater, YEAR). Many mammals, both male and female often use "olfactory displays", or expose, flaunt or spray scents at prospective mating partners (Vandenbergh, YEAR).

Social Interactions That Animals Express

Social Behaviors

Social behavior is a very important aspect of Ethology. A change in an animal's social environment can affect ovulation, synchronize menstrual cycles or even induce miscarriages (Encarta, YEAR). Even primates have a dominant hierarchy within social groups. The elder males of the group form a coalition. Despite their age, they still dominate younger, stronger males (Devore, YEAR). For some species the survival advantages of social behavior are great (Miller, YEAR).

Grooming

Grooming behavior occurs independently and socially. The male lion is among the most meticulous when grooming himself. Many animals rely on a helping partner to help clean their face. Zoo research suggests that self-grooming is more frequent when under stress (Benyus,

YEAR). Animals know that physical contact is a valuable method of reducing tensions. This is comparable to the modern technique of group therapy (Marler, YEAR). Lions lick each other's faces, necks and shoulders as a part of social grooming. Social grooming is often times more effective in removing parasites because this enables lions to lick against the grain of the hair. This social grooming is used as a "social lubricant" by reinforcing mutual dependence and friendliness. Dominant males rarely groom other lions because they have no need to appease others (Benyus, YEAR).

Animal Behavior Involving Family

Parental Behavior

Immediately after birth the mother begins the grooming ritual. Sometimes the young respond negatively with human-sounding cries. Gorilla mothers, while lactating may remain in celibacy for two to four years while caring for her young. Menstrual periods return as soon as she sends her young out on their own (Benyus, YEAR). Lions live in groups called prides that help them become better mothers. Females within a pride share maternal responsibilities (Raven, YEAR).

The season of year that young are born is crucial to the survival of many mammals (Milne, YEAR). For their first two months of life the cubs are fed milk supplemented with meat. A mother's behavior may seem negligent especially from a human perspective. She may abandon a single cub to die so she can mate again and possibly have a larger litter (Benyus, YEAR).

A cub's chances of living to age two are one in five. They are blind and helpless at birth. Their mother hides her cubs in bushes when she leaves to hunt or socialize. They're still open to attack from hyenas and leopards. Occasionally she will change the hiding place. The lioness will always fulfill her own hunger before leading her cubs to the kill (Benyus, YEAR).

Even when an animal depends on their parents for food and protection, built-in patterns of behavior play an important role in their life. A herring gull chick, just hatched and lying hopelessly in their nest, must beg for their first meal by pecking at a small red spot on their parent's bill. If the animal fails to perform this instinctive act, the chick will not be fed (Freedman, YEAR).

Marsupials are very unique in their fetal development (Raven, YEAR). For example, at birth the kangaroo is only about two inches long, blind and unformed, with the exception of their claw-tipped forefeet and mouth. The remainder of the animal's development takes place in their mother's pouch. After the newborn kangaroo emerges from the womb the mammal crawls into their mother's pouch and attaches itself to a nipple. This maneuver is done purely by instinct and is necessary for their survival (Freedman, YEAR).

If baby monkeys or apes are separated from their mother they become depressed, isolated and even die in some cases (Slater, YEAR). Giraffes, however often leave their young in nursery groups throughout the day while they're busy browsing on leaves (International Wildlife, YEAR).

Instinctive Behavior

An animal's instincts are habits that are born with that animal, not things that are learned or can be changed (Miller, YEAR). Honeybees are reliant on what scientists call "blind instinct" (Manning, YEAR). Most instinctive behaviors are very simple, but others are not. Web building in spiders and nest building in insects are complex instinctive behaviors (Miller, YEAR). According to Dr. Mark A. Holt, DVM, there is about a 50/50 split of what information is attributed to instinct and what is taught (Holt, YEAR).

Some learning takes place on a trial and error basis. For instance, young prairie dogs learn the boundaries of their territory because when they enter the territory of a neighboring group they are attacked. Young rats are treated roughly when they become too close to an adult near a food source. (Mason, YEAR).

Animals learning behaviors are shaped through experience. Scientists such as J.B. Watson and B.F. Skinner are well known figures in the science of behaviorism. The term, behaviorism is the theory that all behavior is learned (Snowdon, YEAR). A premium example of learned behavior is a Stanford Ph.D. student, Penny Patterson teaching a gorilla named Koko to read by using American sign language (see Figure 1). Studies performed on Koko have made a major impact on research in animal behavior (Encarta, YEAR).

The debate between instinctive behaviors and learned instinctive behaviors is also called "nature vs. nurture", respectively. The question has wrongfully been viewed as an "either/or" situation. Scientist now know that instinct and learning are both vital to an animal's survival (Raven, YEAR).

Discussion

- * Part of the text/body; not necessarily to be a separate paper; 3 paragraphs with about 5-9 sentences per paragraph.
- * Wrap up what has been presented in your paper. Pull back into a more general format that restates the main points of the paper. Refrain from introducing new concepts. May also call for action or overview future possible research.
- * Free to use your own words, mention why to topic is important, state your own opinions, and/or (citations are not necessary); but, retain 3rd person.

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Notes:

- Be aware of proper margins and spacing for references. If an interview is used, you must "cite" the interview within the paper; however, do not "reference" the interview.
- Be sure to "reference" the Figure; no need to "cite" the figure in the text except by, see (Figure #).



Figure 1. Koko learning sign language and how to read with Penny Patterson.

The Gorilla Foundation. (n.d.). Retrieved October 15, YEAR, from <http://www.koko.org/sign-language>