

A Critique and Summary of  
Emotions and Cognitive Levels in Non-primate Animals

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It is believed by many that non-primate animals do not possess secondary emotions (higher level - require thought). However, according to a study done at the University of Portsmouth in Portsmouth, UK, jealousy was observed in 81% of dogs and 79% of horses (Morris, Doe, & Godsell, 2008). According to Dictionary.com and Merriam-Webster.com, the definition of “jealousy” refers to a mental state of being fearful that one will lose a possession to someone else, displaying emotions such as aggression, anger, fear, etc. (2015). Ironically, science differentiates primary emotions from secondary emotions with words that actually describe each other. For example, science classifies the words “anger” and “fear” as primary (basic) emotions, while words such as “jealousy” and “pride” are classified as being secondary emotions. Secondary emotions are said to be unique to only humans. However, who is ultimately responsible for the creation of those terms and the appropriation of them in relation to who and what they apply to? There is much debate over this very controversial topic. The question of whether animals indeed feel higher level human emotions, such as jealousy, is one that comes with heated opinions and has much research left to be done.

Cesar Millan, one of America’s most renowned animal behavior experts, believes that dogs do not exhibit jealousy when showing characteristics of possession. In fact, Millan says that it is humans who allow for the dog to enter into a claiming state and essentially feel as if they own someone or something (2015). This is exactly opposite of the findings in the study done at the University of California San Diego, which implemented the use of three objects to rate levels of jealous behaviors in dogs (Harris, 2014). Yet, Millan is still convinced that he is right. In fact, he is not alone in his beliefs that humans can be responsible for animals seeming jealous, as many other scientists agree with him. Not surprisingly, one huge controversy in this field of

study is the concept of anthropomorphism (the act of referring to animal behaviors with human, man-made, words and characteristics). I appreciated both viewpoints while researching this topic, as they both make compelling arguments. Sure, an animal might feel emotions equivalent to those of a primate, but how would one ultimately and confidently ever know the real answer to that question unless the animal itself told us? Nevertheless, more research needs to be done. The field of study should be broadened, as most studies are predominantly inconclusive and have only been done on monkeys and great apes (Morris, Doe, & Godsell, 2008).

Because humans have what is known as theory of mind (referred to as ToM hereafter) and experience higher level cognition, we expect for non-primate animals to demonstrate this same ToM in order to give them credit for having equal human intelligence (i.e.: emotions). ToM annotates the concept of self-awareness. Whether or not a non-primate animal has ToM ultimately justifies classification of that animal as possessing either primary emotions or secondary (higher level) emotions (Morris, Doe, & Godsell, 2008). I personally think that this theory alone is considerably contradictory to the arguments of those same researchers who believe that one should not use anthropomorphism when evaluating, describing, and comparing animal emotions. One cannot say whether an animal has higher level cognitive abilities solely based off of the infrastructure of definitions built by humans.

Subsequently, it is known that the amygdala contributes to fear, aggression, and emotions in the brain. It is also known that the prefrontal cortex is what provides for higher level cognition. With these two areas of the brain being at the center of the firestorm debate on whether or not non-primate animals possess human-like emotions, I find it quite interesting that more recent sources are beginning to question the possibility of non-primates having prefrontal

cortices (since many scientists disregarded this theory for years). According to Jon H. Kaas, who wrote the fascinating book “Evolutionary Neuroscience,” the debate is starting to lessen, as more and more scientists are learning that these prefrontal cortices are not unique to only humans. The theory now is that certain species do indeed possess prefrontal cortices, however they are just not as advanced as humans’. Furthermore, Kaas goes on to write about the size of primates’ brains being an indication of a much larger prefrontal cortex. However, in contrast, a non-primate’s brain size is not a direct indication of how large their prefrontal cortices are (p. 954, 2009). Distinctively, and with great logic, this proposes that the complexities of the two are incomparable.

As with any other greatly debated topic, there must be much more hard evidence gained on both sides of the argument, in order to fully understand the whole picture. I love that I was able to be moved (in my position) by some of the opposing arguments I read. From Cesar Millan, to the argument of not using anthropomorphism to understand animals, I was able to appreciate these viewpoints, even though I disagreed. They are truly compelling arguments. Along with all of the aforementioned reasons to why researchers cannot fully understand and effectively evaluate animal emotions, I thought Marc Bekoff made an excellent point that emotions are still evolving (2000). One must take into consideration all aspects of the research, agreeing with it or not. I believe that when scientists, researchers, theorists, philosophers, individual dog-owners, etc. all come together and provide uniquely new ways to experiment with this subject, only then will harmony and awareness come.

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