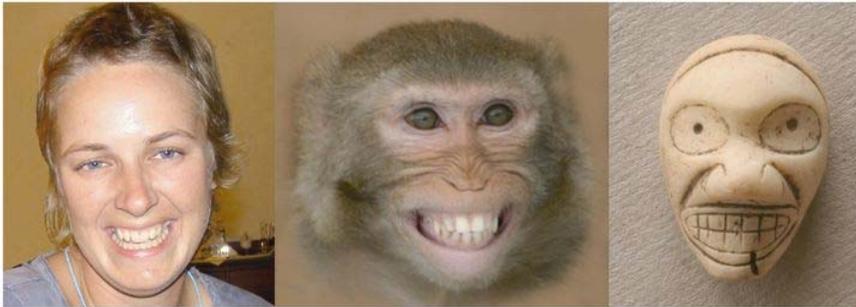


## Macaques and Humans: The Only Self-Aware Animals?

By Jennifer Viegas | Fri Feb 25, 2011 02:16 PM ET

[Macaques](#) playing a computer game display self-doubt and uncertainty, behavior that strongly suggests these monkeys are aware of their own thinking, according to a new study presented recently at the [American Association for the Advancement of Science annual meeting](#).



*These are bared-teeth displays in human, rhesus macaque and Taíno material culture (shell face) from El Cabo, Dominican Republic. Alice V. M. Samson and Bridget M. Waller (human), Lisa Parr (rhesus macaque) and project Houses for the Living and the Dead (shell face). Figure courtesy of Current Anthropology.*

Self-awareness can be difficult to prove, and thus far scientists have only been able to say with certainty that we humans possess the ability. Studies on other animals, however, such as bottlenose dolphins, magpies and elephants, indicate they are cognizant of their own thinking too.

### NEWS: Monkey Mamas and Babies Communicate

My guess is that many other animals, including fish, are self-aware, but this latest study on macaques is particularly clever. It also looks to have been a not-too-unpleasant diversion for participants, as you can see in the video posted with [this BBC News story](#).

John David Smith, from State University of New York at Buffalo, and Michael Beran, from Georgia State University, taught macaques the computer game. The goal was for the participant to correctly identify the density of a small box that appeared during each round of the game. Using a joystick, the monkeys selected either "S" for sparse or "D" for dense. Each correct response rewarded the player with a food treat. (The monkeys became really good and fast, popping the treats in their mouths as quickly as they could.)



*A rhesus macaque mother nurses her infant; Credit: Katie Hinde*

If a macaque selected the wrong letter, the game paused and the individual received no treat. The monkeys could avoid the pause if they chose a third option on the screen -- a question mark -- indicating they were unsure of the box's density.

Macaques preferred to pass and continue the game when a particular session became too difficult. Prior research shows humans also do this during brainteasers, meaning that both we and macaques would rather pass than risk choosing the wrong answer.

"Monkeys apparently appreciate when they are likely to make an error," Smith told BBC News. "They seem to know when they don't know."

[Capuchin monkeys](#), which belong to the group known as New World monkeys, did not elect to pass in the game, suggesting they lack our and the macaques' same level of self-awareness.

### NEWS: Male Monkeys Hold Babies to Make Friends

Smith asked, "There is a big theoretical question at stake here: Did [this type of cognition] develop only once in one line of the primates -- emerging only in the line of [Old World primates](#) leading to apes and humans?"

He added that the capacity to think in this manner was "one of the most important facets of humans' reflective mind, central to every aspect of our comprehension and learning. These results... could help explain why self-awareness is such an important part of our cognitive makeup and from whence it came."



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