

# Babies may not have a 'moral compass' after all: New research casts doubt on landmark 2007 study

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New research from New Zealand's University of Otago is casting doubt on a landmark US study that suggested infants as young as six months old possess an innate moral compass that allows them to evaluate individuals as 'good' or 'bad'.

The 2007 study by Yale University researchers provided the first evidence that 6- and 10-month-old [infants](#) could assess individuals based on their behaviour towards others, showing a preference for those who helped rather than hindered another individual.

Based on a series of experiments, researchers in the Department of Psychology at Otago have shown that the earlier findings may simply be the result of infants' preferences for interesting and attention grabbing events, rather than an ability to evaluate individuals based on their social interactions with others.

The Otago study was recently published in [PLOS ONE](#), an international, peer-reviewed, open-access, online journal.

Lead author Dr Damian Scarf says that the Yale study caused an international sensation when it was published in the leading journal *Nature*.

"The paper received a lot of attention when it was first published,

including coverage in the New York Times. It has received well over 100 citations since 2007, a phenomenal number over such a short period. The paper was initially brought to our attention by one of the PhD students in our lab. The head of the lab, Professor Harlene Hayne, suggested that a group of us read the paper together and then meet to discuss it. Our original motivation for reading the paper was merely interest. Obviously, the idea that morality is innate is extremely interesting and, if true, would raise questions about which components of our moral system are innate and also have implications for the wider issue of the roles that nature and nurture play in development," says Dr Scarf.

In the original experiment, infants watched a wooden toy (i.e., the "climber") attempt to climb a hill. They viewed two social interactions; one in which a "helper" toy nudged the climber up the hill, and another in which a "hinderer" toy nudged the climber down the hill.

After viewing these two scenarios, the infants were presented with a tray; on one side of the tray was the helper and on the other side was the hinderer. Amazingly, the majority of infants picked the helper over the hinderer. To further elucidate infants' moral reasoning abilities, a "neutral" toy (i.e., a toy that neither helped nor hindered) was pitted against the helper or hinderer. When the neutral character was paired with the helper, the infants preferred the helper; when paired with the hinderer, they preferred the neutral character.

The paper concluded that the experiments show that infants can evaluate individuals based on how they interact with another individual, and that their ability to do this is 'universal and unlearned'.

After reviewing videos of the Yale experiments, the Otago researchers noticed that two obvious perceptual events could be driving infants' choices.

"On the help and hinder trials, the toys collided with one another, an event we thought infants may not like. Furthermore, only on the help trials, the climber bounced up and down at the top of hill, an event we thought infants may enjoy."

The researchers carried out a series experiments to test these assumptions and, by manipulating the collision and bouncing events, were able to show that these perceptual events were driving infants' choices of the helper over the hinderer, Dr Scarf says.

"For example, when we had the climber bounce at the bottom of the hill, but not at the top of the hill, infants preferred the hinderer, that is, the one that pushed the climber down the hill. If the social evaluation hypothesis was correct, we should have seen a clear preference for the helper, irrespective of the location of the bounce, because the helper always helped the climber achieve its goal of reaching the top of the hill."

Although the Yale researchers have followed up their original study with further research findings that appear to support the original study, these too could be explained under the simple association hypothesis, he says.

"Their newer studies employ different paradigms but can still be explained using our simple association hypothesis. While we accept it is not easy to develop paradigms that perfectly match up the perceptual attributes of the helper and hinderer events, we still think there is room for improvement. I look forward to future studies on the topic of moral nativism and hope our study stimulates some discussion."

**More information:** Scarf D, Imuta K, Colombo M, Hayne H (2012) Social Evaluation or Simple Association? Simple Associations May Explain Moral Reasoning in Infants. *PLOS ONE* 7(8): e42698. [doi:10.1371/journal.pone.0042698](https://doi.org/10.1371/journal.pone.0042698)

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