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Brain circuits for empathy, violence may overlap

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Human brain circuits involved in empathy and in violence may overlap, scientists have found. They say the discovery might help explain why people are both unusually kind and abnormally vicious compared to most other animals.

The conclusions are based a review of past research on the subject, an overview summarized in a paper published in the February issue of the Spanish-language research journal *Revista de Neurología*. The work was carried out by Luis Moya Albiol of the University of Valencia in Spain and colleagues.

“Just as our species could be considered the most violent, since we are capable of serial killings, genocide and other atrocities, we are also the most empathetic species,” Moya Albiol told a Spanish-government sponsored science news agency and website, the Science Information and News Service.

The study concludes that brain structures known as the prefrontal and temporal cortex, the amygdala and other features of the so-limbic system, believed to be involved in emotion, play “a fundamental role in all situations in which empathy appears.”

Newer techniques for measuring the human brain while it is actively working, such as a scanning method called functional magnetic resonance imaging or fMRI, are shedding light on structures governing behavior and psychological processes, Moya Albiol noted. fMRI measures which brain areas are most active at any given time by measuring blood flow to different regions, using radio waves and a strong magnetic field.

Such studies indicate that the empathy-related parts of the brain overlap “in a surprising way” with those that regulate aggression and violence, said Moya Albiol, the study’s lead author, according to the news service. “We all know that encouraging empathy has an inhibiting effect on violence. But this may not only be a social question but also a biological one—stimulation of these neuronal [brain cell] circuits in one direction reduces their activity in the other.”

This means it is hard for a “more empathetic” brain to behave violently, at least on a regular basis, Moya Albiol continued. “Educating people to be empathetic could be an education for peace, bringing about a reduction in conflict and belligerent acts.”