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## It's true: Liars' brains are different

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The brains of pathological liars, habitual cheats and manipulators are structurally different from those of honest people, U.S. scientists say.

A University of Southern California team studied 49 people and found those known to be liars had up to 26 percent more prefrontal white matter, or wiring in the brain, and less prefrontal gray matter than others, according to the study, published in October's British Journal of Psychiatry and released Friday.

"White matter may provide liars with the tools necessary to master the complex art of deceit," Adrian Raine, professor of psychology at the university and co-author of the study, said on the USC Web site. Gray matter, brain cells connected by white matter, helps check the impulse to lie, he said.

While previous research has shown heightened activity in the prefrontal cortex when normal people lie, Raine said this is the first study to provide evidence of structural differences in that area among pathological liars.

The findings could be used to help police determine which suspects are lying or help clinicians diagnose who is malingering, Raine said.

The study argues that the more networking there is in the prefrontal cortex, the area at the front of the brain that enables most people to feel remorse or learn moral behavior, the more a person has the upper hand in lying because verbal skills are higher.

"Lying takes a lot of effort," Raine said. "You have to be able to understand the mind-set of the other person. You also have to suppress your emotions or regulate them because you don't want to appear nervous. There's quite a lot to do there."

The subjects were taken from a sample of 108 volunteers in Los Angeles.

Psychological tests and interviews divided the volunteers into three groups of the same social background, ethnicity and IQ: 12 were placed in the category of people who had a history of repeated lying (11 men, one woman), 16 were put in the category of those who exhibited signs of antisocial personality disorder but not pathological lying (15 men, one woman), and 21 went into the "normal" group (15 men, six women), the study shows.

After the subjects were categorized, the researchers used magnetic resonance imaging to explore structural brain differences.

The liars had a 25.7 percent increase in prefrontal white matter compared with the antisocial group and a 22 percent increase compared with the normal group. Liars had a 14.2 percent decrease in prefrontal gray matter compared with the normal group, according to the study.

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