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## Now scientists read your mind better than you can

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By [Maggie Fox](#), Health and Science Editor

WASHINGTON (Reuters) - Brain scans may be able to predict what you will do better than you can yourself, and might offer a powerful tool for advertisers or health officials seeking to motivate consumers, researchers said on Tuesday.

They found a way to interpret "real time" brain images to show whether people who viewed messages about using sunscreen would actually use sunscreen during the following week.

The scans were more accurate than the volunteers were, Emily Falk and colleagues at the University of California Los Angeles reported in the *Journal of Neuroscience*.

"We are trying to figure out whether there is hidden wisdom that the brain contains," Falk said in a telephone interview.

"Many people 'decide' to do things, but then don't do them," Matthew Lieberman, a professor of psychology who led the study, added in a statement.

But with functional magnetic resonance imaging or fMRI, Falk and colleagues were able to go beyond good intentions to predict actual behavior.

fMRI uses a magnetic field to measure blood flow in the brain. It can show which brain regions are more active compared to others, but requires careful interpretation.

Falk's team recruited 20 young men and women for their experiment. While in the fMRI scanner they read and listened to messages about the safe use of sunscreen, mixed in with other messages so they would not guess what the experiment was about.

"On day one of the experiment, before the scanning session, each participant indicated their sunscreen use over the prior week, their intentions to use sunscreen in the next week and their attitudes toward sunscreen," the researchers wrote.

After they saw the messages, the volunteers answered more questions about their intentions, and then got a goody bag that contained, among other things, sunscreen towelettes."

"A week later we did a surprise follow up to find out whether they had used sunscreen," Falk said in a telephone interview.

About half the volunteers had correctly predicted whether they would use sunscreen. The research team analyzed and re-analyzed the MRI scans to see if they could find any brain activity that would do better.

Activity in one area of the brain, a particular part of the medial prefrontal cortex, provided the best information.

"From this region of the brain, we can predict for about three-quarters of the people whether they will increase their use of sunscreen beyond what they say they will do," Lieberman said.

"It is the one region of the prefrontal cortex that we know is disproportionately larger in humans than in other primates," he added. "This region is associated with self-awareness, and seems to be critical for thinking about yourself and thinking about your preferences and values."

Now, Falk said, the team is looking for other regions of the brain that might add to the accuracy of the technique.

While the findings can be important for advertisers seeking to hone a motivational message, they can be equally important for public health experts trying to persuade people to make healthier choices, Falk said.

The team is now preparing a report on experiments to predict whether people would quit smoking after seeing motivational messages.

(Editing by [Sandra Maler](#))

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