PRESS RELEASE

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How the Brain Creates the ‘Buzz’ That Helps Ideas Spread

How do ideas spread? Are we able to predict what messages will go viral on social media?

New research published in Psychological Science, a journal of the Association for Psychological Science, takes a significant step towards answering these questions, identifying for the first time a brain region associated with the successful spread of ideas, or viral “buzz.”

“Our study suggests that people are regularly attuned to how the things they’re seeing will be useful and interesting, not just to themselves but to other people,” says the study’s senior author Matthew Lieberman, a UCLA professor of psychology and of psychiatry and biobehavioral sciences. “We’re wired to want to share information with other people. I think that is a profound statement about the social nature of our minds.”

The research has a broad range of implications, the study authors say, and could lead to more effective public health campaigns, more persuasive advertisements, and better ways for teachers to communicate with students.

“Before this study, we didn’t know what brain regions were associated with ideas that become contagious, and we didn’t know what regions were associated with being an effective communicator of ideas,” says lead author Emily Falk, who conducted the research as a UCLA doctoral student in Lieberman’s lab and is currently a faculty member at the University of Pennsylvania’s Annenberg School for Communication. “Now we have mapped the brain regions associated with ideas that are likely to be contagious and are associated with being a good ‘idea salesperson.’ In the future, we would like to be able to use these brain maps to forecast what ideas are likely to be successful and who is likely to be effective at spreading them.”

In the first part of the study, 19 students underwent functional magnetic resonance imaging (fMRI) scans as they saw and heard information about 24 potential television pilot ideas.

The students were asked to envision themselves as television studio interns who would recommend each show to their “producers” by making videotape assessments for each pilot.

Another group of 79 undergraduates was asked to act as the “producers.” These students watched the interns’ videos assessments and then made their own ratings of the shows.

Though the researchers didn’t yet know which TV pilots would be “buzz”-worthy, they wanted to see if activation in certain brain regions would predict which shows the interns shared most enthusiastically — and which shows the producers would be excited about.

“We’re constantly being exposed to information on Facebook, Twitter and so on,” Lieberman notes. “Some of it we pass on, and a lot of it we don’t. Is there something that happens in the moment we first see a piece of information — maybe before we even realize we might pass it on — that is different for those things we’ll pass on successfully versus those that we won’t?”

As it turns out, there is. The researchers found that the interns who were especially good at persuading the producers showed significantly more activation in a brain region known as the temporoparietal junction, or TPJ, at the time they were first exposed to the pilot ideas they would later recommend. Not only did they show more activation in this region than the interns who were less persuasive, but also more activation than they themselves had when exposed to pilot ideas they didn’t like.

“We wanted to explore what differentiates ideas that bomb from ideas that go viral,” says Falk. “We found that increased activity in the TPJ was associated with an increased ability to convince others to get on board with their favorite ideas.”

These results open up several avenues for future research. By further studying the neural activity in these brain regions, for instance, psychologists might be able to predict what kinds of advertisements will be most effective, Lieberman and Falk say.

Such knowledge could also benefit public health campaigns aimed at everything from reducing risky behaviors among teenagers, to combating cancer, smoking, and obesity.

“The explosion of new communication technologies, combined with novel analytic tools, promises to dramatically expand our understanding of how ideas spread,” Falk explains. “We’re laying basic science foundations to address important public health questions that are difficult to answer otherwise — about what makes campaigns successful and how we can improve their impact.”

Co-authors on the study include Sylvia Morelli of Stanford University; and Locke Welbourn and Karl Dambacher, both at UCLA.

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The APS journal Psychological Science is the highest ranked empirical journal in psychology. For a copy of the article "Creating
Buzz: The Neural Correlates of Effective Message Propagation" and access to other Psychological Science research findings, please contact Anna Mikulak at 202-293-9300 or amikulak@psychologicalscience.org.

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