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How Our Brains Can Help Ideas Spread

July 6, 2013

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April Flowers for redOrbit.com – Your Universe Online

Long before the advent of the internet, scientists were trying to understand how ideas spread. Today, the questions include “what messages will go viral on social media?” and “can this be predicted?”

A new study, led by UCLA psychologists, has taken a significant step towards answering these questions. The research team has identified, for the first time, the brain regions associated with the successful spread of ideas, often called “buzz.”

The authors say that their findings, published in *Psychological Science*, have a broad range of implications that could lead to more effective public health campaigns, more persuasive advertisements and better ways for teachers to communicate with students.

“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,” said [Matthew Lieberman](#), a UCLA professor of psychology and of psychiatry and biobehavioral sciences. Lieberman is the author of the forthcoming book “Social: Why Our Brains Are Wired to Connect.”

“We always seem to be on the lookout for who else will find this helpful, amusing or interesting, and our brain data are showing evidence of that. At the first encounter with information, people are already using the brain network involved in thinking about how this can be interesting to other people. We’re wired to want to share information with

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other people. I think that is a profound statement about the social nature of our minds.”

[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, said, “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. 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.”

For the initial phase of the study, 19 UCLA students with an average age of 21 underwent functional magnetic resonance imaging (fMRI) brain scans at UCLA’s [Ahmanson-Lovelace Brain Mapping Center](#). During their scans, the students heard and saw information about 24 potential television pilot ideas. The fictitious plots, presented by another group of students, included a show about former beauty-queen mothers who want their daughters to follow in their footsteps; a Spanish soap opera about a young woman and her relationships; a reality show in which contestants travel to countries with harsh environments; a program about teenage vampires and werewolves; and a show about best friends and rivals in a crime family.

The students who were exposed to the TV pilot ideas were asked to act as television studio interns. They were to decide whether or not they would recommend each idea to their “producers” and create videotaped assessments of each pilot.

The second part of the study involved another 79 UCLA students of the same average age who were asked to act as “producers.” The producers watched the interns’ video assessments of the pilots, then created their own ratings for the pilot ideas based on those assessments.

The team’s goal was to learn which brain regions were activated when the interns were first exposed to information they would later pass on to others.

“We’re constantly being exposed to information on Facebook, Twitter and so on,” said Lieberman. “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 it – maybe before we even realize we might pass it on – that is different for those things that we will pass on successfully versus those that we won’t?”

THE SALESPERSON EFFECT

Surprisingly, they found that there is something different. 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, when they were first exposed to the pilot ideas they would later choose to recommend. The TPJ region showed more activation in these students than those who were less persuasive, and more activation was observed when exposed to ideas they would later recommend than ideas they would reject. The researchers call this the “salesperson effect.”

“It was the only region in the brain that showed this effect,” Lieberman said. He notes that one might have thought brain regions associated with memory would show more activation, but that was not the case.

“We wanted to explore what differentiates ideas that bomb from ideas that go viral,” Falk said. “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. Nobody had looked before at which brain regions are associated with the successful spread of ideas. You might expect people to be most enthusiastic and opinionated about ideas that they themselves are excited about, but our research suggests that’s not the whole story. Thinking about what appeals to others may be even more important.”

Located on the outer surface of the brain, the TPJ is part of what is known as the brain’s “mentalizing network.” The mentalizing network is involved in thinking about what other people think and feel. It also includes the dorsomedial prefrontal cortex, located in the middle of the brain.

“When we read fiction or watch a movie, we’re entering the minds of the characters – that’s mentalizing,” Lieberman said. “As soon as you hear a good joke, you think, ‘Who can I tell this to and who can’t I tell?’ Making this judgment will activate these two brain regions. If we’re playing poker and I’m trying to figure out if you’re bluffing, that’s going to invoke this network. And when I see someone on Capitol Hill testifying and I’m thinking whether they are lying or telling the truth, that’s going to invoke these two brain regions.”

“Good ideas turn on the mentalizing system,” he said. “They make us want to tell other people.”

The students acting as interns that showed more activity in their mentalizing system as they viewed pilots they intended to recommend were more successful at convincing the producers to also recommend those pilots.

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“As I’m looking at an idea, I might be thinking about what other people are likely to value, and that might make me a better idea salesperson later,” Falk said.

The researchers say that further study into the neural activity of these brain regions to see what information and ideas activate these regions more, could allow psychologists to predict which advertisements are most likely to spread and go viral and which will be most effective. Public health campaigns aimed at everything from reducing risky behaviors among teenagers to combating cancer, smoking and obesity could also benefit from this knowledge.

“The explosion of new communication technologies, combined with novel analytic tools, promises to dramatically expand our understanding of how ideas spread,” Falk said. “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.”

Lieberman likens us to “information DJs” who share things we think will be of interest to people in our social media networks.

“What is new about our study is the finding that the mentalizing network is involved when I read something and decide who else might be interested in it,” he said. “This is similar to what an advertiser has to do. It’s not enough to have a product that people should like.”

Source: April Flowers for redOrbit.com - Your Universe Online

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