Trust your aha! moments, experiments show they're probably right

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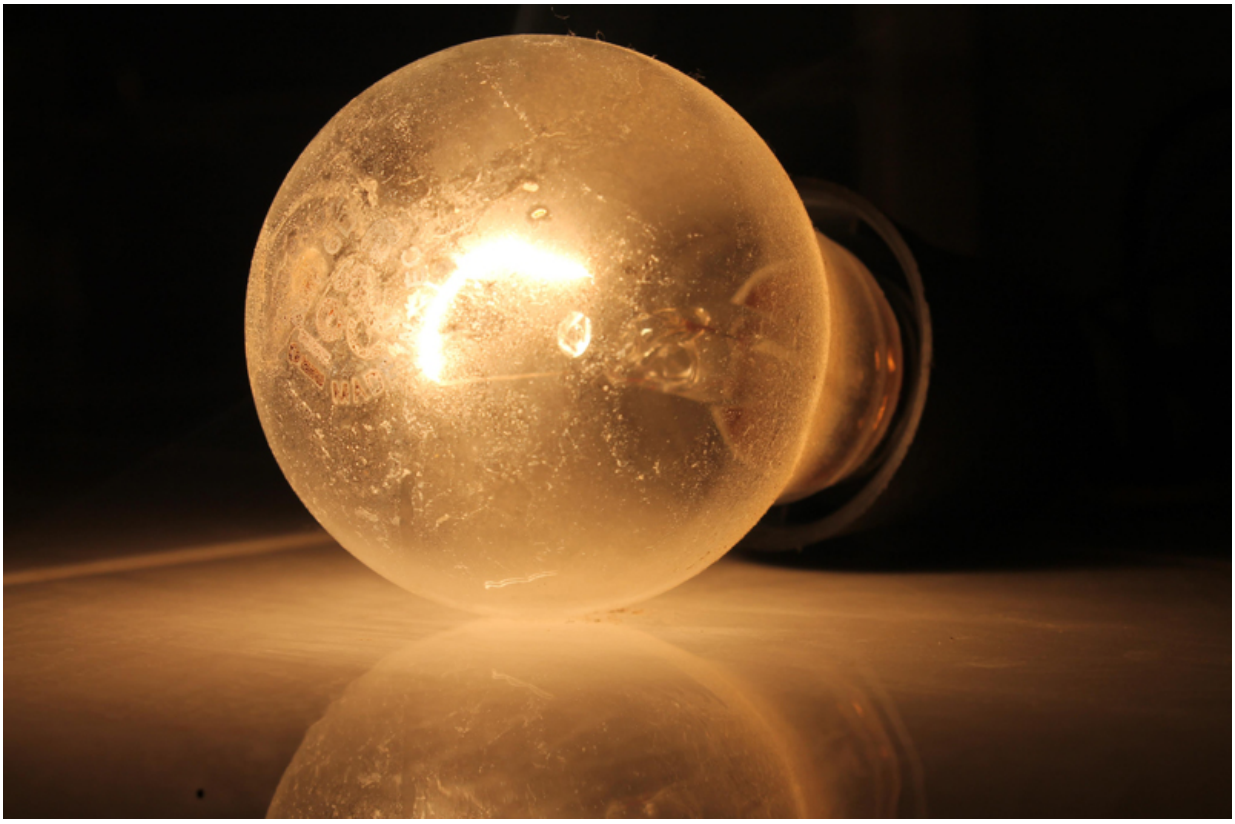

When a solution to a problem seems to have come to you out of thin air, it turns out you've more than likely been struck with the right idea, according to a new study.

A series of experiments conducted by a team of researchers determined that a person's sudden insights are often more accurate at solving problems than thinking them through analytically.

"Conscious, analytic thinking can sometimes be rushed or sloppy, leading to mistakes while solving a problem," said team member John Kounios, PhD, professor in Drexel University's College of Arts and Sciences and the co-author of the book "The Eureka Factor: Aha Moments, Creative Insight and the Brain." "However, insight is unconscious and automatic—it can't be rushed. When the process runs to completion in its own time and all the dots are connected unconsciously, the solution pops into awareness as an Aha! moment. This means that when a really creative, breakthrough idea is needed, it's often best to wait for the insight rather than settling for an idea that resulted from analytical thinking."

Experiments with four different types of timed puzzles showed that those answers that occurred as sudden insights (also described as Aha! moments) were more likely to be correct. Moreover, people who tended to have more of these insights were also more likely to miss the deadline rather than provide an incorrect, but in-time, answer. Those who responded based on analytic thought (described as being an idea that is worked out consciously and deliberately) were more likely to provide an answer by the deadline, though these last-minute answers were often wrong.

Trust Yourself

Carola Salvi, PhD, of Northwestern University, was lead author on the paper "Insightful solutions are correct more often than analytic solutions" in the journal *Thinking & Reasoning*.

"The history of great discoveries is full of successful insight episodes,

fostering a common belief that when people have an insightful thought, they are likely to be correct," Salvi explained. "However, this belief has never been tested and may be a fallacy based on the tendency to report only positive cases and neglect insights that did not work. Our study tests the hypothesis that the confidence people often have about their insights is justified."

Other co-authors on the paper with Salvi and Kounios were Mark Beeman (co-author of "The Eureka Factor" with Kounios), also of Northwestern, Edward Bowden, of the University of Wisconsin-Parkside, and Emanuela Bricolo, of Milano-Bicocca University in Italy.

Putting Insight to The Test

Each experiment making up the study used one group of distinct puzzles: one experiment used only linguistic puzzles, another used strictly visual ones, and two used puzzles with both linguistic and visual elements.

For example, one type of linguistic puzzle showed three different words: "Crab," "pine" and "sauce." The experiment participant was then asked to provide the word that could fit all of them to make a compound word, which was "apple," in this case. The visual puzzle provided a scrambled image and required the participant to say what object they thought the puzzle depicted.

Each experiment consisted of between 50 and 180 puzzles. Participants were given 15 or 16 seconds to respond after seeing a puzzle. As soon as the participant thought they solved the puzzle, they pressed a button and said their answer. Then they reported whether the solution came through insight or analytical thinking.

Overwhelmingly, responses derived from insight proved correct. In the linguistic puzzles, 94 percent of the responses classified as insight were

correct, compared to 78 percent for the analytic thinking responses. For the visual puzzles, 78 percent of the responses were correct, versus 42 percent for the analytic responses.

Bad Guesses, Good Insights

When taking the timing into account, answers given during the last five seconds before the deadline had a lower probability of being correct. For the linguistic puzzles, 34 percent of the responses were wrong, compared to 10 percent of the responses being wrong for quicker answers; for the visual puzzles, 72 percent of the answers given during the last five seconds were wrong.

The majority of those late wrong answers were based on analytic thinking. In one of the experiments, the number of incorrect responses related to analytic thinking recorded in the last five seconds was more than double the number of incorrect responses recorded as insights.

Those numbers for the last five seconds pointed to some participants guessing at the puzzles' solutions. These participants were analytical thinkers.

"Deadlines create a subtle—or not so subtle—background feeling of anxiety," Kounios said. "Anxiety shifts one's thinking from insightful to analytic. Deadlines are helpful to keep people on task, but if creative ideas are needed, it's better to have a soft target date. A drop-dead deadline will get results, but they are less likely to be creative results."

Insightful thinkers tend not to guess. They don't give an answer until they have had an Aha! moment.

"Because insight solutions are produced below the threshold of consciousness, it is not possible to monitor and adjust processing before

the solution enters awareness," Salvi said.

Hmm vs. Aha!

Analytical thinking is best used for problems in which known strategies have been laid out for solutions, such as arithmetic, Kounios said. But for new problems without a set path for finding a solution, insight is often best. The new study shows that more weight should be placed on these sudden thoughts.

"This means that in all kinds of personal and professional situations, when a person has a genuine, sudden insight, then the idea has to be taken seriously," Kounios said. "It may not always be correct, but it can have a higher probability of being right than an idea that is methodically worked out."

More information: *Thinking & Reasoning*, www.tandfonline.com/doi/abs/10 … =ptar20#.Vs9heBiFlBw

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