Why do some people believe in conspiracy theories?

—Thea Buckley, India

Christopher French, a professor of psychology at Goldsmiths, University of London, explains:

Although conspiracy beliefs can occasionally be based on a rational analysis of the evidence, most of the time they are not. As a species, one of our greatest strengths is our ability to find meaningful patterns in the world around us and to make causal inferences. We sometimes, however, see patterns and causal connections that are not there, especially when we feel that events are beyond our control.

The attractiveness of conspiracy theories may arise from a number of cognitive biases that characterize the way we process information. "Confirmation bias" is the most pervasive cognitive bias and a powerful driver of belief in conspiracies. We all have a natural inclination to give more weight to evidence that supports what we already believe and ignore evidence that contradicts our beliefs. The real-world events that often become the subject of conspiracy theories tend to be intrinsically complex and unclear. Early reports may contain errors, contradictions and ambiguities, and those wishing to find evidence of a cover-up will focus on such inconsistencies to bolster their claims.

"Proportionality bias," our innate tendency to assume that big events have big causes, may also explain our tendency to accept conspiracies. This is one reason many people were uncomfortable with the idea that President John F. Kennedy was the victim of a deranged lone gunman and found it easier to accept the theory that he was the victim of a large-scale conspiracy.

Another relevant cognitive bias is "projection." People who endorse conspiracy theories may be more likely to engage in conspiratorial behaviors themselves, such as spreading rumors or tending to be suspicious of others' motives. If you would engage in such behavior, it may seem natural that other people would as well, making conspiracies appear more plausible and widespread. Furthermore, people who are strongly inclined toward conspiratorial thinking will be more likely to endorse mutually contradictory theories. For example, if you believe that Osama bin Laden was killed many years before the American government officially announced his death, you are also more likely to believe that he is still alive.

None of the above should indicate that all conspiracy theories are false. Some may indeed turn out to be true. The point is that some individuals may have a tendency to find such theories attractive. The crux of the matter is that conspiracists are not really sure what the true explanation of an event is—they are simply certain that the "official story" is a cover-up.

What are the best and worst ways to prepare for an exam?

—Lola Irele, London

Daniel Willingham, a professor of psychology at the University of Virginia and author of *Raising Kids Who Read: What Parents and Teachers Can Do,* responds:

So glad you asked! Scientists have a lot of practical information on this topic, but most students do not know about it. Research investigating how students learn was first conducted at highly competitive institutions such as the University of California, Los Angeles. Even students at these top schools used terrible strategies.

For example, students commonly highlight what they read, but research shows that it does not help memory. Most students highlight as they are reading text for the first time, when they do not know what is important enough to highlight.

Another ineffective comprehension method is rereading. Doing so makes the student *feel* he or she is getting to know the material better and better. Rereading is like someone explaining the same thing repeatedly. It all makes sense, so you say, "Yes, yes, got it." But reviewing an explanation is not the same as being able to explain something yourself.

The flaw in rereading—failing to know if you have learned the material—points to our first good study technique: self-testing. Self-testing may involve flash cards, it may mean answering questions at the back of a book chapter or it may be fielding questions lobbed by a study buddy.

There are two main benefits to self-testing. First, in contrast to rereading, self-testing offers an accurate assessment of what has been learned and whether one needs to keep studying. Second, scores of studies show that self-testing is a great way to cement material into memory. It is even better than equivalent time spent perusing the material.

Another useful technique is to periodically pause when reading to ask why a statement in the text is true. We have all had the experience of passing our eyes over words but not really thinking about what we have read. Pausing every few paragraphs to ask, "Why does that make sense?" prompts thinking and learning.

A third technique is to spread out study sessions instead of cramming. Much research shows that memory is more enduring when material is reviewed days or even weeks apart. This is a practice that teachers can promote by giving more frequent assignments and quizzes that require a review of material covered earlier in the course. Even brief memory refreshers can result in big returns in learning. **M**

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