

BRAIN MATTERS

Science of forgetting: Why we're already losing our pandemic memories

Because of information overload and the monotony of pandemic life, your brain may already be forgetting parts of the covid years



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How much do you remember about the past three years of pandemic life? How much have you already forgotten?

A lot has happened since the “Before Times.” Canceled proms, toilet paper shortages, nightly applause for [health workers](#), new [vaccines](#), [waitlists](#) for getting the first jab, and more.

Covid disrupted everyone’s lives, but it was truly life-changing for only a sizable subset of people: [those who lost someone to covid](#), [health-care workers](#), the [immunocompromised](#) or those who developed [long covid](#), among others.

For the rest of us, over time, many details will probably fade because of the quirks and limitations of how much our brains can remember.

“Our memory is designed not to be computer-like,” said [William Hirst](#), professor of psychology at the New School for Social Research in New York. “It fades.”

Why we might forget a pandemic

Forgetting is inextricably intertwined with memory.

“A basic assumption that we can make is that everybody forgets everything all the time,” said Norman Brown, cognitive psychology professor researching autobiographical memory at the University of Alberta. “The default is forgetting.”

To understand why we may forget parts of pandemic life, it helps to understand how we hold on to memories in the first place. Your brain has at least three interrelated phases for memory: encoding, consolidation and retrieval of information.

When we encounter new information, our brains encode it with changes in neurons in the hippocampus, an important memory center, as well as other areas, such as the amygdala for emotional memories. These neurons embody a physical memory trace, known as an engram.

Our memories are centered around our life stories and what affected us personally the most.

Much of this information is lost unless it is stored during memory consolidation, which often happens during sleep, making the memories more stable and long-term. The hippocampus essentially “replays” the memory, which is also redistributed to neurons in the cortex for longer-term storage. One theory is that the hippocampus stores an index of where these cortical memory neurons are for

retrieval — like Google search.

Finally, during memory retrieval, the memory trace neurons in the hippocampus and cortex are reactivated.

Notably, memories are not fixed and permanent. The memory is subject to change each time we access and reconsolidate it.

What we remember tends to be distinctive, emotionally loaded and deemed worthy of processing and reflecting upon in our heads after the event happened. Our memories are centered on our life stories and what affected us personally the most.

Against this neural backdrop, the pandemic would seem unforgettable. It was a frightening, historic event, the likes of which most people have never encountered before.

Information overload and monotony interfere with memory

But so much has happened, it was difficult for our brains to encode the overload of information we had to sift through — masks, social distancing, superspreaders, more cases, more deaths, new waves and new variants such as omicron and delta, and who even remembers all the subvariants?

“This is a very fundamental memory phenomenon,” said Suparna Rajaram, psychology professor who researches the social transmission of memory at Stony Brook University. “Even for such salient emotional events and salient life-threatening events, that the more you have of it, the more you will have trouble capturing all of them.”

New memories, which happen by simply living more life, interfere with memories of older events.

Even Rajaram, who is conducting pandemic-related memory research, said she and her colleagues have difficulty recalling some of the events they are asking their participants about.

New memories, which happen by simply living more life, interfere with memories of older events. New events are more salient and easier to remember because we are more likely to talk about them and “rehearse” them, by repeatedly remembering and reconsolidating them. Stress, something the pandemic produced in abundance, also interferes with the creation of new memories.

In addition to information overload, the pandemic was monotonous for many people stuck at home. “It was very much the same and the same thing over and over again,” said Dorthe Berntsen, professor of psychology specializing in autobiographical memory at Aarhus University.

When events are uniform, they are harder to recall. “The memory sort of puts it together as almost one event,” she said. “So therefore, I think we will have quite unclear memories from those specific years.”

Who wants to remember a pandemic?

Here’s another reason we forget: As a society, many people don’t want to hold onto their covid memories.

People tend to view the future more positively than the past, Rajaram said. This future-oriented positivity bias occurs because the future can be imagined in many ways compared to the past, which is fixed.

Emotionally evocative and dramatic events are more likely to be remembered, but even those memories fade and distort. Within a week of the 9/11 terrorist attacks, Hirst and a consortium of researchers around the United States asked over 3,000 people in the United States to relate their experiences and feelings around the event.

When the researchers followed up just a year later, about 40 percent of people did not accurately recall those memories. Yet they remained “supremely confident that they were absolutely right,” said Hirst, who studies social aspects of memory.

The least reliable aspect of our memory is remembering how we felt at the time.

“If you ask people to remember how they felt the first few days after 9/11, it’s more like what they feel right now than what they actually felt the first few days after 9/11,” Hirst said.

Remembering the past is something we do in the present, with all our current emotions, knowledge and attitudes. This reality may have direct implications for how we look back on covid and contend with the future.

Will covid be part of your life story?

Covid affected everyone but the mark it leaves on our lives and thus our memories will vary drastically.

Over 2,000 Americans still die each week as of the third anniversary of the pandemic lockdowns. At least 1.1 million people have died in the United States and 6.9 million worldwide. The loved ones left behind are less likely to forget the pandemic.

Among front-line health-care workers, many suffer from burnout or continue to deal with the trauma of bearing the brunt of the pandemic. At least 65 million people worldwide are dealing with the lingering, often debilitating effects of long covid.

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“I would say the pandemic, for many people, will be remembered as this kind of gray interlude,” Brown said. “And for some people, it will be a life-changing kind of event or period. And they’ll remember differently.”

Our autobiographical memory is structured by life transitions, and for many, the transition into the pandemic was gradual and the transition back to a semblance of normal more gradual still.

“In order to really kind of staple one’s autobiographical memories into history, history has to take your life and turn it on its head,” Brown said.

The risk of collectively forgetting another pandemic

How society decides to commemorate the pandemic will probably affect whether and how it lives in our society’s collective memory, and what future generations learn from our experiences.

While parents pass along their knowledge and family history to offspring, these communicative memories only last for two or three generations: we may know something about our grandmothers or even our great-grandmothers, but almost nothing further up our family tree.

Without cultural artifacts — books, movies, statues, museums — the same may happen for memories of the covid pandemic, consigned to the entropic dustbin of history. As of now, there are no official permanent memorials for the pandemic.

The influenza pandemic of 1918 and 1919 infected a third of the world’s population and killed 50 million people — more than the military casualties of World Wars I and II combined. But it seemed to fade quickly from collective memory, which was only revived with the arrival of our current pandemic.

“Will the covid-19 pandemic have the same fate and memory?” Rajaram said. “I think to the extent that the past is a predictor of the future, the answer is yes.”

But our future history is not yet decided. Governments and institutions have the resources and intragenerational structure key to keeping collective memories alive.

“And the question is, do we feel the moral imperative not to let the story end with us?” Hirst said.

Do you have a question about human behavior or neuroscience? Email BrainMatters@washpost.com and we may answer it in a future column.