OPINION

MAY 3, 2024 | 5 MIN READ

How Much Do Our Thoughts Shape Our Health?

The way we think about time, aging and sickness may influence our health, behavior and general well-being in surprising ways

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Psychology Opinion

Time heals all wounds, as the saying goes. But any medical professional can tell you that the hours required for recovery after an injury can vary widely. A person's age, lifestyle and level of social support, for example, are all known influences on how quickly their body heals.

Their thoughts can play a remarkably powerful role as well. In a recent experiment, we tested whether expectations about the time it takes to heal can

affect how long it actually takes to recover. We found that people's perception of the passage of time influenced how quickly their wounds healed. The work is just the latest in a larger collection of evidence—documented in a new book written by one of us (Langer), *The Mindful Body*—that underscores the unity of mind and body, an idea with profound implications for health and well-being.

For the past 45 years, members of the Langer Lab have studied the ways in which the mind shapes the physiology of the body, or what our lab refers to as mind-body unity. The basic idea is simple: when people conceive of the mind and the body as a single entity rather than separable units, they can see how the mind has enormous control over health and well-being. Wherever we put our mind, so too will be our body.

The first test of this concept was the counterclockwise experiment, which one of us (Langer) designed and ran in 1979. In that study, elderly men lived in a retreat that was retrofitted to appear as if it had existed 20 years earlier and had vintage furniture, appliances and magazines. We asked the men to live as their younger self. They discussed past events in the present tense as if they were currently unfolding. The results were astonishing. Without any medical intervention, their hearing, vision, memory and strength improved. They also were perceived to look noticeably younger in photographs by the end of the week.

Since that time the Langer Lab has found further confirmation of mind-body unity. We have discovered that expecting fatigue can cause people to feel more tired and that thinking you will catch a cold is associated with an increased likelihood of doing so. In another study, people who anticipated certain benefits such as weight loss from daily exercise did see those benefits, even as other people doing the same activities without those expectations saw no such changes.

In the recent study of wound healing, we looked closely at how expectations could affect recovery from a physical injury. We recruited 33 participants to undergo a controlled procedure three times that left mild bruising on the skin. In each case, there was a 28-minute healing observation period, and during that time frame, we asked people to fill out a survey at specific intervals.

In two conditions, we manipulated the experience of time. For example, in a "fast time" condition, we told participants to respond to the survey every eight minutes, and we gave them a timer that—unbeknownst to them—ran at

double speed. As a result, every actual minute corresponded to two minutes on the timer, such that the 28-minute total felt like a quick 56 minutes. In a "slow time" condition, the survey occurred every two minutes, and we set the timer to run at half its normal speed. In this setup, the 28-minute period felt like a glacial 14 minutes.

We found that wounds healed faster when participants believed more time had passed and slower when they believed less time had passed—even though the actual elapsed time was the same in every case. We are now in the process of replicating and extending this finding to people recovering from hernia surgery, cataract surgery and dental surgery.

Our implicit beliefs about time are not the only thing we can change to improve our health—our research suggests we should also think more mindfully about categories and diagnostic labels. For example, when we spoke with endocrinologists, they agreed that there was no relevant difference between someone who measured a 5.6 percent or 5.7 percent on a hemoglobin test called A1C, which measures blood sugar levels. But a line must be drawn somewhere, and standard medical protocol is to consider anyone with an A1C level below 5.7 percent as having "normal" levels and anyone above that point as "prediabetic." In a study that was recently accepted for publication, we compared data from 3,984 people who scored a 5.6 percent or 5.7 percent and found a significant difference in their ensuing medical trajectory. Those who got the prediabetic label experienced significantly greater increases in A1C results over the ensuing 10 yearsand had a significantly higher tendency to develop diabetes. Because the two groups were essentially the same at the start, the most reasonable conclusion is that subsequent differences were the result of the diagnostic label.

While it's worth noting that doctors may have treated these people differently once they received the prediabetic label, many endocrinologists told us that they generally give patients with either a 5.6 or 5.7 percent score the same advice: they note that the patient's blood glucose level is a little high and suggest that lifestyle changes could help. We therefore suspect people with this classification tended to have different expectations for themselves—even though, initially, people in both groups had comparable blood sugar levels on the high side of normal. We dubbed this tendency for otherwise comparable people to fall victim to the diagnostic label they are given "the borderline effect": when we set a threshold for a specific medical condition, people

immediately above that borderline and those immediately below it may be essentially the same, but after the label is applied, they leave with very different impressions of their health.

Taken together, this work suggests that people can think themselves sick when they could otherwise be healthy and that they can also think themselves well. Each person goes through life acquiring various beliefs about how their body works and what it means to be healthy. Often these ideas reflect our core assumptions about the world and affect us with little conscious awareness. Much as someone can develop preferences or biases based on past experience, our research suggests that people also develop implicit beliefs that affect their health. For instance, a person may think they can spot the signs that they are getting sick or older. Their expectations, which structure how they feel, what they think and what they do, shape what happens next.

Going a step further, healthy living, which is undoubtedly a function of healthy choices, such as wearing sunscreen and brushing our teeth, is *also* a function of healthy thinking. As one of us (Langer) has argued for decades, most people act mindlessly most of the time because they are preoccupied with their past thoughts, which blinds them to the present. But we can notice and question our thoughts and implicit beliefs, especially when they're counterproductive—such as expecting to heal slowly or thinking we are just too frail to cope.

We can ask ourselves questions such as: How do we know that these ideas are accurate? What past experiences and situational factors might be unduly influencing our beliefs? Are there equally valid alternative beliefs to consider? And when we encounter a more constructive alternative that resonates, we can embrace it. Thoughts, feelings, and actions will then change accordingly. Just like that, better health is often only a thought away.

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ELLEN LANGER is a professor of psychology at Harvard University who has earned three distinguished scientist awards and a Liberty Science Center Genius Award. Her most recent book, *The Mindful Body: Thinking Our Way to Chronic Health*, presents, among other things, several studies on mind-body unity and its potential to improve health and well-being.

More by Ellen Langer

PETER AUNGLE is a Ph.D. candidate in psychology at Harvard University. He is leading investigations into wound healing and the borderline effect. Peter's research explores the ways in which attention, beliefs and expectations interact to shape health over time.

More by Peter Aungle

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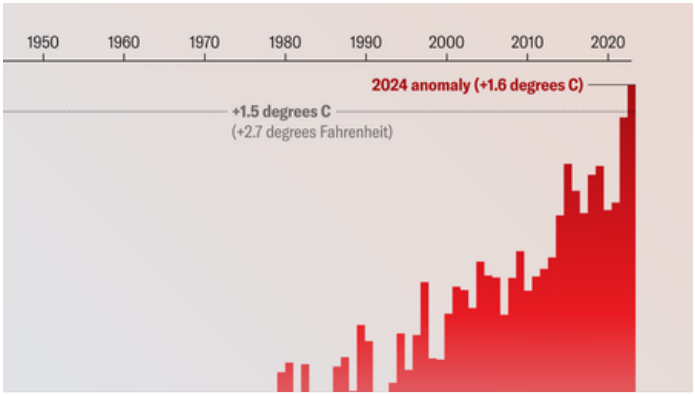

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