

IDEAS

# The gift of being unsure of what to do

In times of flux, embracing uncertainty and ambiguity sharpens your thinking.

By Maggie Jackson Updated January 17, 2021, 3:00 a.m.



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**I**t already had been an unsettling year for Lexi Walker when the pandemic broke. A creature of routine — “If I don’t have certainty, I’m going to freak out,” she says — she had, nonetheless, in mid-2019 traded in a law career in Virginia for a new job as a fiduciary, or court-appointed assets manager, in her hometown of Taylors, S.C. Then her father passed away, and no sooner had she buried him than pandemic life became a constant series of “What’s next?” “There’s so much uncertainty now, and there’s no escaping it,” she says. “Your life could change fundamentally tomorrow — you have no idea. It’s easy to get caught up in it.”

Walker still worries, yet lately, she's been asking herself a new kind of question. "The stuff that I used to do, am I going to go back to doing it?" An impulse to buy something she doesn't need prompts reflection. And she's looking ahead as never before, making her first five-year plan. "There's less autopilot, in a sense," she says. "This is an opportunity to really kind of reevaluate a lot of things that I would have started doing without thinking about them." Almost despite herself, she is sensing possibility in the very uncertainty that she dreads.

Humans are naturally ill at ease with not knowing. We evolved to seek answers, for survival's sake. Cognition is the pursuit of resolution. So dependable is our aversion to being unsure that subjects in one series of psychological experiments were far more stressed not knowing *whether* they would get an electric shock than knowing for sure they would receive one.

Now an onslaught of unknowns — fueled by unrest, recession, fire, flood, and plague — drives laments about "these uncertain times" to fever pitch. Yet shunning uncertainty at this critical moment would be a mistake. A new wave of research is revealing that this long-misunderstood mindset plays an essential role in catalyzing higher-order thinking in times of flux. When a problem is muddy or new, being unsure prompts us to slow the rush to judgment, take another look at a first and often-erroneous conviction, and reach for a *better* answer.

"There's an adaptive value to the sense and experience of uncertainty," says Dr. Paul K.J. Han, a senior scientist at the National Cancer Institute and a leader of recent scientific efforts to decode the psychological mechanisms of uncertainty. "It's not as if we should be suppressing it. On the other hand, we simply don't like it in most circumstances." That uncertainty unsettles us is its paradoxical gift.

Epic challenges confront us, from the ravages of climate change and assaults on democracy to an intractable pandemic. But these complex problems can be fully redressed only if we break our preference for quick fixes and certainty and harness the literally thought-provoking mindset of *not* knowing. Studies show that simply fearing

uncertainty makes us prone to rigidity, close-mindedness, and anxiety — the very states that hobble us in moments of upheaval.

## **Nothing set in stone**

Who is the better candidate? Which vaccine is safest? We all know what it's like to be unsure — to sense that one's knowledge is incomplete and there's something more to know. But remarkably, the mindset of uncertainty until recently was often overlooked as a topic of study in itself. Psychologists tended to view it as something for humans to eradicate as quickly as possible.

The fallacy that not knowing is a cognitive no-man's-land, however, is rapidly crumbling.

Health care, for example, is a field historically bent on pursuing certainty from diagnosis to treatment. But that has come at a price. Medical students who shun ambiguity show less interest in treating underserved patients with often-complex conditions. Doctors' discomfort with uncertainty has been linked to excessive testing, to overprescribing antibiotics, and to the burnout and depression that reached alarming levels even before the pandemic. It's crucial to address medicine's "unhealthy reaction to uncertainty," Dr. Arabella Simpkin, an assistant professor at Harvard Medical School, wrote in [a commentary last April for BMJ](#).

And some in the field have begun to do just that.

A few years ago, faculty at a small family-medicine residency program in Lewiston, Maine, noticed that their young doctors were increasingly uneasy treating outpatients whose care typically involved ongoing complexity and ambiguity. It took senior doctors at Central Maine Medical Center a while to realize the problem: The trainees were uncomfortable with the uncertainty that is integral to their profession. In 2015, the faculty added an extra month of outpatient rotation, more time for faculty mentoring, lectures on medical error, and a new emphasis on the idea that "there isn't one right way to treat a patient," says the program director, Dr. Bethany Picker. "We reframed the

learning in a way to allow people to be open to not-knowing, not resist it but to seek it.” That’s when “we saw light bulbs going on.”

A pilot study published in 2018 by Picker, psychologist Deborah Taylor, Dr. Donald Woolever, and colleagues showed that after the new curriculum was added, residents became less likely to see ambiguity as threatening. For example, before the new rotation, residents on average heartily agreed that “an expert who doesn’t come up with a definite answer probably doesn’t know too much.” Afterward, and even six months later, they strongly disagreed. The teaching had shifted their professional identity.

“It was reiterated to us that it’s okay to say, ‘I need to look this up’ or ‘I don’t know the answer right now’ — which is a very hard thing to do, by the way,” recalls Dr. Nupur Nagrare, a 2017 graduate of the program who practices in upstate New York. The training has given her confidence — even courage — during the pandemic. “If you’re open to ambiguity, you don’t have tunnel vision and things aren’t so set in stone,” she says.

Day to day, humans fare well by relying on intuitive cognition, the quick heuristics or shortcuts largely honed from past experience. This is how an experienced doctor, for example, first suspects that a patient’s chest pains signal a heart attack. But when something defies expectations or goes awry, the mind must break away from autopilot, pivot, and reassess. An error, a contradiction, a discrepancy — a false-positive medical test, an awakening to societal inequality — creates a discomfiting mismatch between old expectations and a new reality.

What happens in our minds at that point is one of the hottest topics in cognitive science.

At that moment, uncertainty widens our focus and bolsters working memory. It evokes the “slow” thinking needed to update a now-deficient understanding of the world. Being unsure is both a signal of danger and a provocation to investigate what’s different, missing, or wrong, an undertaking called “conflict processing.” “Uncertainty can be informative, and people don’t often seem to realize that,” says Sander van der Linden,

who directs the University of Cambridge's Social Decision-Making Laboratory. "It points us in the direction of what we do *not* know."

Consider a pioneering study of 104 German chief executives facing the dramatic expansion of the European Union in 2004 to include many former communist countries. A few months before that change, some of the 104 CEOs predicted it would bolster their firms while others said it would hurt their prospects, according to the study by Nils Plambeck of HEC Paris Business School and Northwestern University's Klaus Weber. A third group, however, saw the enlargement of the European bloc as potentially both positive and negative; they were unsure of the ultimate outcome.

When the researchers returned more than a year later to see how the executives had fared, they found to their surprise that the deep ambivalence popularly equated with paralysis had had the opposite effect. The torn CEOs considered a wider number of responses, included more diverse voices in their decisions, and took more novel and bold actions. They realized that "there is a reality out there that is not binary," says Weber. In contrast, those who had evaluated their prospects as good or bad or who felt more in control of the situation tended to stick to routine operations; some did almost nothing at all.

Uncertainty is a gadfly of the mind, jolting us from complacency — if we are willing to take up its invitation.

"Being uncertain means that I lack confidence." "There is really no such thing as a problem that can't be solved." These are measures used in the "Intolerance of Uncertainty" and "Tolerance for Ambiguity" assessments, psychological tests that are attracting new attention in medicine, clinical psychology, and the business world as tools for helping people unlock the upsides of not knowing. In essence, the tests measure the degree to which people view uncertainty as a challenge or as a threat — a seemingly innocuous difference in attitudes that nonetheless affects how we learn, argue, and solve problems.

Those who shy from the indefinite tend to engage in rigid thinking, leap to conclusions, and yearn for life to be clear and predictable; they see knowledge as a rock to hold and defend. At the opposite end of the spectrum are flexible, curious thinkers who are more likely to cope well with and even seek out diversity, complexity, and change. The implications are clear: Tolerance for uncertainty is the stepping-stone to cognitive flourishing.

The ability to skillfully confront uncertainty increasingly is seen as a path not just to critical thinking but to mental well-being. Many leaders in clinical psychology believe that fear of the unknown is a major root cause, or “transdiagnostic factor,” behind mental illnesses including anxiety, depression, and post-traumatic stress disorder. Anxiety, in this light, arises from excessive or unnecessary efforts to resolve uncertainty by avoiding it or by seeking an illusion of control through worrying.

New treatments are teaching patients with anxieties to delegate more at work, for example, or to make decisions without hyper-checking the Internet. In effect, they are practicing facing their worst fear, not knowing, just as someone who is afraid of dogs might first try to approach a puppy, then a dog on a leash. “People worry that ‘uncertainty is going to ruin me,’” says Kevin Alschuler, a University of Washington psychologist. “We help them see they can handle it.”

## **A chance for a reset**

Amid widespread anger, despair, and exhaustion, more than half of Americans believe “we should seize the opportunity of COVID-19 to make important changes to our country,” according to research by the nonpartisan, nonprofit More in Common. Shifting views on race are inspiring “the opening up of imaginations,” human rights activist Opal Tometi told *The New Yorker*. A new administration heartens at least one half of the political spectrum.

But fledgling hopes for a societal reset will shrivel unless we first reconsider a culture that has transformed our innate love of quick, certain answers into a foundational value of the times. Executives are viewed as less competent if they pause to deliberate in public for just seconds. The pace and look of the technological milieu foster an implicit conviction that “knowing” is downloadable, neat, and quick; after just a few minutes of online searching, people are apt to think they know more than they actually do. Deepening polarization devalues the personal uncertainty that is essential for compromise.

The greatest obstacle to thoughtful, unifying change is not the wrongness of the other side or the need for a better algorithm but the intolerance of uncertainty that places us at a dangerous remove from a nuanced, multifaceted, evolving understanding of reality.

We can laugh at past eras’ assumptions that the stars and earth’s species were fixed and that the adult brain and personality were immutable. Instead, we should ask ourselves: What veil of certainties now keeps us in the dark about ourselves, our world, and each other? The great Enlightenment-inspired battle to eradicate not-knowing — what John Dewey called the “quest for certainty” — is ending. It’s time to enlist the “enemy” in solving the problems of our days.

Not long ago, my husband and I were involved in the poignant work of dismantling a family home. By prior agreement, the contents were divided by ranking people’s choices and then a roll of the dice. All went well until we won something that another relative had yearned for and exhausted family members began to demand that we hand over the heirloom.

The choice at first seemed clear: Keep it and anger kin or sacrifice fairness to restore peace. But then I realized that in our collective hurry to seal the deal, we were failing to explore hidden aspects of the problem. Perhaps the situation wasn’t quite as win-lose as we had thought. Maybe memories weren’t so zero-sum. A moment’s indecision inspired me to dig deeper and craft a third option: a trade that satisfied all sides. Not knowing proved to be an essential accomplice to good thinking, not the cognitive defeat that we too often fear.

*Journalist and technology critic Maggie Jackson is the author of “Distracted: Reclaiming Our Focus in a World of Lost Attention.” She is writing a book about uncertainty’s role in good thinking.*

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