

Uncertainty colors pandemic workplace decisions

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Each day we confront risks at home, at work and in society, but the COVID-19 pandemic, including the rise of new variants, has changed our relationship with risk. As workers and employers determine health measures and back-to-the-office plans, calculations and perceptions of

risk loom large.

Valerie Reyna, the Lois and Melvin Tukman Professor of Human Development and director of the Human Neuroscience Institute in the College of Human Ecology, studies risk and uncertainty, including in the context of viral infection. Reyna, also the co-director of the Center for Behavioral Economics and Decision Research, recently answered questions about workplace risk.

Question: What effects of the COVID-19 pandemic are you seeing in your research?

A: Risk and uncertainty affect people's lives ubiquitously, but never more so than during this pandemic. Some inherent aspects of risk and uncertainty are hard for human beings to understand and process. One thing, for example, is cumulative risk of infection: It's not just the people you come in contact with, but it's the repeated contacts and the cumulative probability of infection over a period of time.

There's also the indirect context that's very difficult to understand intuitively; it's my contact with someone who then is contacting someone else. So this is actually a combination of all of those cumulative contacts, and that is difficult to understand—they're very abstract—but they affect us in very concrete ways.

Q: Based on your research, what do you see happening as individuals make choices about vaccination?

A: There are a variety of psychological [risks](#) and biases that affect how people really perceive risk and how they actually behave in the real world. And, my work says, there are two basic ways of looking at risk.

One of them is "just the facts": probability of infection times severity of the disease. People are capable of looking at it that way if they have access to information.

In contrast, there's what's called the gist of the risk: We process risk qualitatively, primarily based on the "fuzzy gist" of information that we get. So when I say something's a huge risk or that it explodes, that's a qualitative judgment about it. I'm trying to communicate a meaning behind the numbers, and that's more than just understanding the numerical function.

We need to continuously communicate with people about risk and uncertainty because there's a lot of misinformation out there and because the situation is dynamically changing. The delta variant is more contagious, and probably more lethal, than the original COVID strain; the COVID strain is more transmissible and more lethal than the flu; and the flu is more lethal and transmissible than, say, the common cold. Understanding how those things stack up, and where the huge risks are, is extremely important. That comes from giving people the context of the facts as well as the facts.

Q: How has risk-related decision-making played out in the implementation of vaccine mandates?

A: FDA approval has been an important thing in many people's minds—before that, it was more difficult and more controversial. Controllability, dread and familiarity are the things that classic research has said matter for risk perception, so the fact that a vaccine is new and hasn't been proven yet—it's not altogether illogical that people would be concerned. They're relying on authorities to tell them whether it is OK or not.

Q: What does your research say about workplace decisions as workers and employers weigh and implement return-to-in-person plans? What can we do to make better decisions?

A: We must work from a foundation of knowledge and science, knowing that science is incomplete, knowing that it's not perfect, but that it is a great place to start—that will save many lives. But even when we inform people of the science, there's often a disconnect between the scientific facts and the psychology of the individual. My research suggests that people are thinking about risk in a different way, even when they understand the facts; there's a disconnect between how some people in the public at large are processing the facts and the experts.

In addition to being up on the latest research, we have to think about epidemics and pandemics differently than onetime risks—they are cumulative and they can get out of control fast.

And not only that, the delta variant is more transmissible than the last, which again is more transmissible than other highly transmissible diseases. So that explosion of risk has to be taken into account.

Research on "fuzzy [gist](#)" was published last year in *Proceedings of the National Academy of Sciences*.

More information: Valerie F. Reyna, A scientific theory of gist communication and misinformation resistance, with implications for health, education, and policy, *Proceedings of the National Academy of Sciences* (2020). [DOI: 10.1073/pnas.1912441117](https://doi.org/10.1073/pnas.1912441117)

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