Risk of rejecting conspiracy theories could play key role in their propagation in Western society

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A new study suggests that when deciding whether to believe in a conspiracy theory or not, the brain weighs up information from our own direct experience, what the media tells us, the expected cost or reward to us in believing the theory, and our prior views. The study is published online in the journal *Review of Philosophy and Psychology*.

Conspiracy theories explain social and political events by claiming that a powerful group of people is damaging our own group or the whole community by means of secret plots.

In recent years, examples in Western society have included that elections have been stolen and that governments are colluding on vaccines they claim protect against the COVID-19 virus, but might actually have ill effects on health, such as on fertility.

Conducted by Dr. Francesco Rigoli, Senior Lecturer at the Department of Psychology, City, University of London, the study adopts computer simulation to describe the psychology of a person deciding whether or not to give credit to a conspiracy theory. The simulation model proposed is named the Computational Model of Conspiracy Theories (CMCT).

The CMCT considers factors influencing a person's judgment as inputs to the model, with the output being the likelihood of the person believing in a conspiracy theory.

These factors include:

- Any new evidence for or against the conspiracy theory in comparison, such as other alternative, mainstream theories
- The perceived risk to the person for not believing the conspiracy theory (or conversely the reward of believing in the conspiracy)
- The person's prior beliefs, including negative or positive views of the world, and states of affect (emotions) that could bias their

belief in a conspiracy theory

The CMCT then weighs up these inputs through a probabilistic calculation, and comes to an estimated likelihood of the person believing the conspiracy theory.

In the real world, the CMCT translates to a person being more accepting of evidence they perceive to be more trustworthy and aligned more closely with their own world views, such as from favored news outlets, or indeed, anecdotal first-hand experience, than sources that are not.

It means that despite being presented with strong evidence for a conspiracy theory to be false, the influence of the perceived risk to the person for not believing in the conspiracy theory, strongly held prior beliefs, or indeed their emotional state, may still mean that the conspiracy theory is likely to be believed.

Examples of perceived risks to a person include:

- Ostracism from a wider peer group, such as a political group, for not believing what the wider group believes, such as an election steal
- Claims of harm to fertility from COVID-19 vaccines, as perceived by a young woman who wants to have children, particularly when she believes she is at low risk of harm from the virus itself

The CMCT has similarities to "error management theory" previously applied to conspiracy theories, as both agree that a perceived risk to the person for not believing in a conspiracy theory biases them toward believing it.

However, a crucial difference is that error management theory suggests

that people are naturally biased toward believing in conspiracy theories through evolutionary processes, while the CMCT does not; it simply factors in the perceived risk each time a new decision is made. Here, the CMCT makes more sense, given that no clear evidence exists to suggest that humans have evolved to believe in conspiracy theories.

The CMCT model also holds that a person will be more susceptible to conspiracy theories when there is a lack of plausible non-conspiratorial theories to explain an event. This is important to governments and other institutions when communicating public health messaging, particularly in light of novel issues like the COVID-19 pandemic, where very little about the virus was initially known with confidence and was in many cases poorly communicated.

Reflecting on the study, Dr. Rigoli said, "The computational model proposed here is broadly consistent with the empirical evidence, and an important step toward a framework by which to understand the logic used to come to belief in a conspiracy theory.

"Whilst research about the psychological processes underlying the appeal of conspiracy theories is accumulating fast, it largely comes from the field of social psychology, where the use of computational modeling is relatively new, but through which the mechanisms of conspiracy theory adoption may be best understood."