

Fake news in the age of COVID-19: Evolutional and psychobiological considerations

ARTICLE HISTORY: Received 10 July 2022/Published Online 19 July 2022

The COVID-19 outbreak has been accompanied by a massive infodemic: an overabundance of information, some accurate and some not. At this pandemic we have seen a large scale of fake news and misinformation, leading to anti-vaccine, anti-mask and anti-5G protests.¹ Fake news is intentionally misleading and deceptive news that is written and published with the intent to damage an entity or a person. They may contain false, misleading, imposter, manipulated or fabricated content. Much of the discourse on fake news conflates three notions, named “information disorders”: (a) Misinformation: false information someone shares without knowing it’s untrue, (b) Disinformation: false information that’s shared with the intention to harm or mislead, and (c) Malinformation: true information that’s used to harm others.²

False beliefs generally arise through the same mechanisms that establish accurate beliefs. People appear to encode all new information as if it were true and later tag the information as being either true or false. Different cognitive, social and affective factors lead people to form or endorse misinformed views. The emotional content of the information shared also affects false-belief formation. An angry mood can boost misinformation sharing, while social exclusion, which is likely to induce a negative mood, can increase susceptibility to conspiratorial content.³ As shown by the Illusory Truth Effect, repeated exposure to an article, whether real or fake, increases people’s perceptions of its accuracy. In social media, falsehood seems to diffuse significantly farther, faster, deeper and more broadly than the truth in all categories of information, while the effects are more pronounced for false political news than for false news about terrorism, natural disasters and science. Moreover, although prior knowledge of a statement leads people to confirm the statement the next time they see it (confirmation bias), novelty facilitates decision making since it updates our understanding of the world.⁴

The fitness value of accurate information seems so obvious, while self-deception seems to threaten such hard-won informational gains. Then, why has not it selected out? The American evolutionary biologist and sociobiologist Robert Trivers⁵ suggested that although our senses have evolved to give us an exquisitely detailed perception of the outside world, as soon as that information hits our brains, it often becomes biased and distorted, usually without conscious effort. Why should this be so? For Trivers, the evolutionary origins of the human propensity for self-deception lie in the adaptive benefits of deceiving others. An animal becomes a better liar when it believes its own lies, or we deceive ourselves the better to deceive others. Deception in animals is the transmission of misinformation by one animal to another and natural selection favors deceptive signaling when aggression either confers a great benefit to signalers or imposes a great cost to receivers.⁶ In humans, self-deception process may have a protective role against depression, while depression on its own may reduce mechanisms of self-deception.^{7,8}

Humans are biased information-seekers that prefer to receive information that confirms their values and worldviews. Maybe, this is why myths and conspiracy theories around COVID-19 and vaccines exist. We may suggest that underlined neuropsychological processes, probably based on biologically determined self- or other-deceptive mechanisms, may serve in the development, and even the conservation, of at least some of the social behaviors related to the fake news phenomenon. These mechanisms may support the human tendency for biased information-seeking and even the evolutionary persistence of the fake news phenomenon.⁹

However, in cases such as of COVID-19 pandemic, the native urge to deceive ourselves and others is not without risk. Beliefs in COVID-19-related conspiracy narratives and fake news are negatively associated with vaccination willingness and infection-preventive behavior.¹ The COVID-19 pandemic and associated infodemic have magnified the underlying problem of trust. The vaccine hesitancy is primarily a trust issue rather than an informational problem. Fake news, rumors and conspiracy theories about COVID-19 and vaccines should not be understood only as false beliefs, but also as indicators of popular anxieties and fears. Stress inoculation treatment can help people prepare for subsequent misinformation exposure and to increase misinformation detection.¹⁰ Finally, policymakers are advised to build information literacy skills for different levels and environments and to move away from polarization attitudes and behaviors.

Orestis Giotakos

*Psychiatrist, MD, MSc, PhD, Editor Dialogues in Clinical Neuroscience & Mental Health,
Founder of the npo obrela and “I Care for my Brain”,
President of the Hellenic Association of Sexology & Inter-Gender Relationships*

References

1. Ripp T, Röer JP. Systematic review on the association of COVID-19-related conspiracy belief with infection-preventive behavior and vaccination willingness. *BMC Psychol* 2022, 10:66, doi: 10.1186/s40359-022-00771-2
2. Wardle C, Derakhshan H. *Information Disorder Toward an interdisciplinary framework for research and policymaking*. Council of Europe, October, 2017. Available from: <https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-research/168076277c>
3. Ecker UH, Lewandowsky S, Cook J, Schmid P, Fazio LK, Brashier N, et al. The psychological drivers of misinformation belief and its resistance to correction. *Nat Rev Psychol* 2022, 1:13–29, doi: 10.1038/s44159-021-00006-y
4. Vosoughi S, Roy D, Aral S. The spread of true and false news online. *Science* 2018, 359 (6380):1146–1151, doi: 10.1126/science.aap9559.
5. Trivers R. *The folly of fools: The logic of deceit and self-deception in human life*. Basic Books/Hachette Book Group, 2011
6. Angilletta MJ, Kubitz G, Wilson RS. Self-deception in nonhuman animals: weak crayfish escalated aggression as if they were strong. *Behav Ecol* 2019, 30:1469–1476, doi.org/10.1093/beheco/arz103
7. Sackeim HA. Self-deception: A synthesis. In Lockard JS, Paulhus DL (eds) *Self-deception: An adaptive mechanism*. Prentice Hall, New Jersey, 1988
8. Giotakos O. Fake news: is it a social phenomenon based on neuropsychologically determined self- or other-deceptive mechanisms? Some thoughts based on insight and self-awareness' areas. *Ann Gen Psychiatry* 2018, 17(Suppl 1):A24, doi: 10.1186/s12991-018-0206-2
9. Giotakos O. Fake news and underlined neurocognitive mechanism. *Dialogues in Clinical Neuroscience & Mental Health* 2018, 1(Suppl 3):20, doi: 10.26386/obrela.v1is3.75
10. Pertwee P, Simas C, Larson HJ. An epidemic of uncertainty: rumors, conspiracy theories and vaccine hesitancy. *Nat Med* 2022, 28:456–459, doi: 10.1038/s41591-022-01728z