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## Viewpoint Mind the "worry fatigue" amid Omicron scares



# wind the "worry fatigue" amid Omicron scares

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#### ABSTRACT

In addition to worry, the accumulated unknowns and uncertainties about COVID-19 may also result in "worry fatigue" that could harm the public's vigilance towards the pandemic and their adherence to preventive measures. Worry could be understood as future-oriented concerns and challenges that could result in negative outcomes, whereas worry fatigue is the feeling of extreme burden and burnout associated with too much worry unsolved. As the world embraces its second COVID-19 winter, along with the pandemic-compromised holiday season, the Omicron variant has been declared a variant of concern by the World Health Organization. However, the fluid and unpredictable nature of COVID-19 variants dictates that, instead of definitive answers that could ease people's worry about Omicron, dividing debates and distracting discussions that could further exacerbate people's worry fatigue might be the norm in the coming months. This means that, amid the ever-changing public health guidance, the forever-breaking news reports, and the always-debatable media analyses, government and health officials need to be more invested in addressing people's potential worry and worry fatigue about the pandemic, to ensure the public's rigorous cooperation and compliance with safety measures.

On November 26, 2021, when the world is largely focused on battling the Delta spread, striving to digest or finish Thanksgiving leftovers, and outsmarting supply chain crunch for Christmas gifts, the World Health Organization declared that the new and highly mutated Omicron a variant of concern (World Health Organization, 2021). Almost coinciding with the news release, different from its treatment of the Delta variant, the world had a panic attack-flights were stranded if not cancelled, borders were closely guarded if not sealed off, and travel bans along with other preventive measures have either been introduced or reinstated (Mallapaty, 2021). Yet in direct contrast to the certain and concrete difficulties imposed on international travel, in early December 2021, the world's knowledge about the arcana that is Omicron variant is scant and scarce (Callaway and Ledford, 2021). Factor in the accumulated negative health consequences from previous variants (Our 2021), public health guidance that could range from disputable to deadly (Islam et al., 2020), and media coverage that feeds on both hope and fear (Su et al., 2021), the unknowns and uncertainties associated the

Omicron variant may not only cause the public worry, but also result in "worry fatigue" as well.

Worry is future-oriented concerns and challenges that could result in negative outcomes (Sibrava et al., 2006), whereas worry fatigue could be understood as the feeling of extreme burden and burnout associated with too much worry unsolved. Similar to worry associated with the pandemic (Taylor et al., 2020), by ways such as compromising people's vigilance towards the pandemic and adherence to safety measures, worry fatigue might also harm people's physical and psychological health. In other words, while worry could prompt people to wear masks and adopt COVID-19 vaccines rigorously (Sobkow et al., 2020), worry fatigue might result in people's dismissal of the importance of masking and vaccination, effectively creating loopholes in society's defence against COVID-19.

One key root cause that could fuel the public's worry and worry fatigue centres on the fact that it takes time for science to catch up with the speed at which COVID-19 variants like Omicron spread. Though the

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world has advanced tremendously as it enters the second year into the pandemic, it will take at least weeks for scientists to fully understand Omicron's transmissibility, virulence, and abilities to evade immunity induced by vaccines or the human immune system; and months for vaccine companies to develop tangible countermeasures if the current ones prove to be ineffective (Callaway and Ledford, 2021). The repetitiveness of "highly mutated," "caution is needed," "mask mandates," "booster shots," and "we don't know yet" could make gripping matters associated with Omicron and other COVID-19 variants soporific, transforming the public's well-justified worry into alarming worry fatigue.

While both worry and worry fatigue could be quickly and effectively addressed with definitive answers about Omicron and COVID-19 at large, the fluid and unpredictable nature of COVID-19 variants, above and beyond the slow-motion of scientific discoveries, dictates that dividing debates and distracting discussions that could further exacerbate people's worry fatigue might be the norm in the coming months. News reports and other media coverage on Omicron may further compound the situation. The media have been ever-present in the release, analysis, and subsequent follow-up of news and reports about COVID-19 (Su et al., 2021). In an analysis of 7,000 publishers of content in English in 2021, researchers found that among the 275 million hours people spent on reading about the most discussed topics, stories about various variants of the SARS-CoV-2 virus accounted for 27 million of the total hours, whereas an additional 43 million reading hours were spent on content related to COVID-19 vaccines (Economist, 2021).

What is unique about the media industry is that, largely rooted in its duties and responsibilities to inform the public regardless of the nature of the news (Iggers, 1999), both concrete scares, cryptic suspicions, and consequential speculations could be reported (Su et al., 2020; Chang et al., 2020; Evanega et al., 2021). As different media companies may have varied businesses models (Chan-Olmsted et al., 2019), it could be difficult to gauge whether and to what extent the need for readership and the potential application of sensationalism may play a role in the news agencies' COVID-19 reporting. What is clear, though, is that in light of the declining (advertising) revenue across the media industry and rising threats to independent journalism (Nielsen et al., 2020), it is ever-more important for media professionals to put people over profit and politics to honour their ethical and moral pledges. The consequences of not prioritizing people's interests and wellbeing could be dire—it may not only erode the media's industry's trustworthiness, damage its reputation and legitimacy, compromise its accumulated goodwill established by informing the public about the pandemic and beyond, but also exacerbate people's worry, and in turn, worry fatigue. These insights combined suggest that, amid the ever-changing public health directives, the forever-breaking news cycles, and the always-debatable media analyses, government and health officials need to be more invested in addressing people's potential worry and worry fatigue about the pandemic (Yang et al., 2020), to ensure the public's rigorous cooperation and compliance with safety measures.

Ethics approval and consent to participate

• Not applicable.

Consent for publication

• Not applicable.

Availability of data and materials

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Authors' contributions

• ZS conceived the work, reviewed the literature, drafted, and edited the manuscript. DMD, JA, AC, and YTX reviewed the literature and

edited the manuscript. All authors approved the manuscript for submission.

#### **Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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#### References

- Callaway E, Ledford H. 2021. How bad is Omicron? What scientists know so far. Nature. https://www.nature.com/articles/d41586-021-03614-z. Published 2021. Accessed December 3.
- Chang, A., Schnall, A.H., Law, R., Bronstein, A.C., Marraffa, J.M., Spiller, H.A., Hays, H. L., Funk, A.R., Mercurio-Zappala, M., Calello, D.P., Aleguas, A., Borys, D.J., Boehmer, T., Svendsen, E., 2020. Cleaning and disinfectant chemical exposures and temporal associations with COVID-19 - National poison data system, United States, January 1, 2020-March 31, 2020. MMWR Morb. Mortal. Wkly Rep. 69 (16), 496–498.
- Chan-Olmsted, S., Wang, R., 2019. In: Making Media: Production, Practices, and Professions. Amsterdam University Press, pp. 133–146. https://doi.org/10.1017/ 9789048540150.010.
- Evanega, S., Lynas, M., Adams, J., Smolenyak, K., 2021. Coronavirus misinformation: Quantifying sources and themes in the COVID-19 'infodemic'. Cornell University, Ithaca, New York.
- Iggers, J., 1999. Good news, bad news: journalism ethics and the public interest. Boulder, CO Westview.
- Islam MS, Sarkar T, Khan SH, et al. 2020. COVID-19–related infodemic and its impact on public health: a global social media analysis. Am. J. Trop. Med. Hyg.103(4):1621-1629.
- Mallapaty S. 2021. Omicron-variant border bans ignore the evidence, say scientists. Nature. https://www.nature.com/articles/d41586-021-03608-x. Published 2021. Accessed December 3.
- Nielsen, R.K., Cherubini, F., Andı, S., 2020. Few winners, many losers: the COVID-19 pandemic's dramatic and unequal impact on independent news media. University of Oxford, Oxford, UK.
- Our World in Data. 2021. Coronavirus pandemic (COVID-19). Oxford University. https://ourworldindata.org/coronavirus. Published 2021. Accessed December 8.
- Sibrava, N.J., Borkovec, T.D., 2006. In: Worry and its Psychological Disorders. John Wiley & Sons Ltd, Chichester, UK, pp. 239–256. https://doi.org/10.1002/ 9780470713143.ch14.
- Sobkow A, Zaleskiewicz T, Petrova D, Garcia-Retamero R, Traczyk J. Worry, 2020. Risk perception, and controllability predict intentions toward COVID-19 preventive behaviors. Frontiers in Psychology, 11, 582720-582720.
- Su, Z., McDonnell, D., Ahmad, J., Cheshmehzangi, A., Li, X., Meyer, K., Cai, Y., Yang, L., Xiang, Y.-T., 2020. Time to stop the use of 'Wuhan virus', 'China virus' or 'Chinese virus' across the scientific community. BMJ Global Health. 5 (9), e003746. https:// doi.org/10.1136/bmjgh-2020-003746.
- Su, Z., McDonnell, D., Wen, J., Kozak, M., Abbas, J., Šegalo, S., Li, X., Ahmad, J., Cheshmehzangi, A., Cai, Y., Yang, L., Xiang, Y.-T., 2021. Mental health consequences of COVID-19 media coverage: The need for effective crisis communication practices. Globaliz. Health. 17 (1) https://doi.org/10.1186/s12992-020-00654-4.
- Taylor, S., Landry, C.A., Paluszek, M.M., Rachor, G.S., Asmundson, G.J.G., 2020. Worry, avoidance, and coping during the COVID-19 pandemic: A comprehensive network analysis. J. Anxiety Disord. 76, 102327. https://doi.org/10.1016/j. ianxdis.2020.102327.
- The Economist. 2021. 2021's biggest stories were covid-19 and America's presidential transition. The Economist. https://www.economist.com/graphic-detail/2021/12/18/2021s-biggest-stories-were-covid-19-and-americas-presidential-transition. Published 2021. Accessed December 20.
- World Health Organization. 2021. Classification of Omicron (B.1.1.529): SARS-CoV-2 Variant of Concern. World Health Organization. https://www.who.int/news/item/ 26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern. Published 202Accessed November 28.
- Yang, Y., Li, W., Zhang, Q., Zhang, L., Cheung, T., Xiang, Y.-T., 2020. Mental health services for older adults in China during the COVID-19 outbreak. Lancet Psych. 7 (4), e19. https://doi.org/10.1016/S2215-0366(20)30079-1.