Acta Neuropsychiatrica

cambridge.org/neu

When artificial intelligence speaks: psychologically adverse effects of the shift from text- to voice-based chatbots

Marc Augustin[1] and Søren Dinesen Østergaard[2,3,4]

[1]Protestant University of Applied Sciences Bochum, Germany; [2]Department of Clinical Medicine, Aarhus University, Aarhus, Denmark; [3]Department of Affective Disorders, Aarhus University Hospital - Psychiatry, Aarhus, Denmark and [4]Institute for Mental and Physical Health and Clinical Translation (IMPACT), Deakin University, Australia

Editorial

Cite this article: Augustin M and Østergaard SD. (2026) When artificial intelligence speaks: psychologically adverse effects of the shift from text- to voice-based chatbots. *Acta Neuropsychiatrica*. **38**(e17), 1–3. doi: 10.1017/neu.2026.10062

Received: 27 January 2026
Revised: 27 January 2026
Accepted: 4 February 2026

Keywords:
artificial intelligence; delusions; language processing; chatbot; psychosis

Corresponding author:
Marc Augustin; Email: marc.augustin@evh-bochum.de

© The Author(s), 2026. Published by Cambridge University Press on behalf of Scandinavian College of Neuropsychopharmacology. This is an Open Access article, distributed under the terms of the Creative Commons Attribution-NonCommercial licence (https://creativecommons.org/licenses/by-nc/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original article is properly cited. The written permission of Cambridge University Press or the rights holder(s) must be obtained prior to any commercial use.

Worldwide, around 800 million people use ChatGPT every week, making it the most prominent chatbot based on generative artificial intelligence (AI chatbot) (Bellan, 2025). While AI chatbots and their underlying technology arguably have a positive potential, there are reports about psychologically adverse effects, such as AI-associated delusions, mania, or suicidality, that affect a fraction of users (Augustin, 2025; Hill, 2025; Morrin *et al.*, 2025; Olsen *et al.*, 2025; Østergaard, 2025a, 2025b; Pierre *et al.*, 2025). Regarding AI-associated delusions or mania, OpenAI – the tech company behind ChatGPT – estimated in a press release from October 2025, '[. . .] that around 0.07% of users active in a given week indicate possible signs of mental health emergencies related to psychosis or mania' (OpenAI, 2025). Indicators of 'potential suicidal planning or intent' were present in 0.15% of weekly active users (OpenAI, 2025). With 800 million users, if assuming that these estimates are valid (OpenAI has provided very little context about how the estimation was carried out), this amounts to half a million individuals worldwide who have chat interactions that show possible signs of psychosis or mania, and around 1.2 million users with potential suicidal planning or intent.

Notably, all of this happened with AI chatbots producing mostly text output, a mode of communication that might be considered more distant and cognitively demanding than hearing direct spoken language. The advanced voice mode, which made ChatGPT sound 'more natural and expressive', was released to all free users in July 2025, expanding access that had previously been available only to paying subscribers (ChatGPT – Release Notes, 2026). First reports about AI-associated delusions and mania preceded that release by months (Morrin *et al.*, 2025). While, to our knowledge, no public data is available on the proportion of text versus voice use in AI chatbot interactions, OpenAI recently reported an increase in the use of dictation and conversational features in its ChatGPT app over the past year (Mims, 2026). Also, the company is developing a new device focused on dialogue (Mims, 2026). In a similar way, Meta offers smart glasses with microphones and ear speakers, and Apple plans to extend AirPod capabilities to enable voice-based AI chatbot interaction (Mims, 2026). Therefore, the primary mode of communication with AI chatbots will likely soon shift from text to voice. Here, we hypothesize that this shift in modality will affect phenomena such as AI chatbot-associated delusions, mania, and suicidal ideation. Specifically, as voice is more immersive and may further blur perceptual boundaries between humans and AI chatbots, we propose that the shift from text to voice is likely to accentuate these severe psychological adverse effects.

While humans are hardwired to hear spoken language, reading text is an acquired skill. Auditory input, such as hearing a mother's voice, is the primary mode of language processing in an infant. For the first few years, language processing in children is entirely focused on spoken language. Such input is directly processed by brain areas that are poised to adapt to spoken language. Human auditory dorsal and ventral fiber tracks have evolutionary roots in other primate species, such as marmosets and macaques, a finding that supports the notion that language-processing brain areas can be considered 'old' from an evolutionary perspective (Aboitiz, 2018; Zhang *et al.*, 2024). Reading written language, on the other hand, typically begins much later, when children start attending school. Compared to how the brain processes spoken language, reading text is a much 'younger' brain skill, dating back only several thousand years to the invention of writing systems. According to the cortical recycling hypothesis, neural plasticity for culturally newer processes, such as reading, develops upon 'older' neural circuits that were developed for the processing of other stimuli, such as moving limbs or handling tools (Kubota *et al.*, 2024). While earlier findings supported the concept that hearing and reading language activate different brain networks (Buchweitz *et al.*, 2009), a more recent study showed that both spoken and written language activate the same regions overall (Deniz *et al.*, 2019).

Despite the overlap in brain network processing, reading – as an acquired skill – likely provides greater distance from what is communicated than spoken language. Indeed, text lacks paralinguistic information that voice can convey, such as tone, pitch, rhythm, or emphasis. Such features may explain why voice-based, compared to text-based reviews, are more effective at altering consumer behavior (Flavián *et al.*, 2023). In a similar consumer setting, voice-based

assistants were perceived as more efficient, satisfying, and enjoyable while requiring less cognitive effort compared with text-based chatbots (Rzepka *et al*., 2022). Notably, a randomized controlled study coauthored by OpenAI showed that psychosocial outcomes differed, depending on whether ChatGPT interactions were based on text, a neutral, or an engaging voice (Fang *et al*., 2025). Participants spent more time with the voice-based ChatGPT than with the text-based version, suggesting greater engagement. Voice mode initially appeared to be associated with better outcomes, such as reduced loneliness. However, longer engagement was overall linked to more negative outcomes, leading to the following conclusions by the authors: 'This implies that as people spend more time daily with the AI, the positive effects associated with voice modalities might diminish or become negative. The neutral voice modality in particular potentially leads to less socialization with real people and more problematic use of AI chatbots compared to using text'. (Fang *et al*., 2025).

The alignment of the evolutionary age and significance of speech processing in the human brain with the early findings regarding the 'superiority' of voice-based compared to text-based digital assistants/AI chatbots when it comes to user engagement, is the root of our concern. Specifically, we find it more likely than unlikely that this leap in anthropomorphism will translate into AI chatbots being associated with even higher risks of psychologically adverse events than is currently the case. Already, the text-based AI chatbots seem to be remarkably 'effective' in eliciting and maintaining delusions and mania (Augustin, 2025; Morrin *et al*., 2025; Østergaard, 2025a), but the voice-based versions will probably be next-level in this regard for a variety of reasons: The human-like conversations are more salient and, thus, more likely to be taken at face value with cognitive guards down. The emotional impact likely increases when being spoken to. The interaction is faster, with speech recognition almost three times as fast as typing in English language (Ruan *et al*., 2018). It is also more seamless, as reading and typing take time, thereby removing natural breaks for reflection and push-back, which are likely essential for maintaining reality testing.

In conclusion, we argue that the change from text to voice mode risks intensifying adverse effects of AI chatbots such as delusions, mania, and suicidal ideation – or presents other mental health risks related to increased immersion (e.g., addictive use of AI chatbots). Spoken language, even when generated by AI chatbots, activates evolutionarily older neural pathways, conveys richer paralinguistic information, and appears to foster greater engagement. Indeed, early evidence suggests that voice-based AI chatbot interactions are associated with increased usage time and potentially more negative psychosocial outcomes. As AI chatbots become increasingly voice-enabled, clinicians, researchers, and technology developers should monitor whether this modality shift alters the incidence, severity, or phenomenology of AI-associated mental health crises. Also, experimental studies, with appropriate safety precautions, directly comparing the psychological consequences of text- and voice-based AI chatbot use in vulnerable populations are needed.

Data availability statement. This editorial did not involve data.

Acknowledgements. None.

Author contributions. MA conceived and drafted this editorial, which was subsequently revised for important intellectual content by SDØ.

Funding statement. There was no specific funding for this editorial. Outside this work, SDØ reports funding from Independent Research Fund Denmark (grant numbers: 7016-00048B and 2096-00055A), the Lundbeck Foundation (grant numbers: R358-2020-2341 and R344-2020-1073), the Danish Cancer Society (grant number: R283-A16461), the Central Denmark Region Fund for Strengthening of Health Science (grant number: 1-36-72-4-20), and the Danish Agency for Digitization Investment Fund for New Technologies (grant number: 2020-6720). These funders played no role in relation to this editorial.

Competing interests. MA holds minority shares in Vivam GmbH and provides unpaid consultancy services to the same company. He has contributed to the patent application WO2025109222A1. He owns/has owned stocks with stock tickers ABEA, ABNB, AFX, ALV, MO, T, AMV0, BAS, BAYN, BNTX, BTI, CSCO, KO, CON, DHL, DTE, EQNR, IBM, LNTH, MC, MCD, MRNA, MUV2, NSRGY, NEE, NVO, PANW, P911, PYPL, PEP, RED, RIO, SRPT, SESG, SHEL, SBUX, TTE, VZ, VOW3, VNA. SDØ received the 2020 Lundbeck Foundation Young Investigator Prize. SDØ owns/has owned units of mutual funds with stock tickers DKIGI, IAIMWC, SPIC25 KL, and WEKAFKI, and owns/has owned units of exchange-traded funds with stock tickers BATE, TRET, QDV5, QDVH, QDVE, SADM, IQQH, USPY, EXH2, 2B76, IS4S, OM3X, EUNL, and SXRV.

References

Aboitiz F (2018) A brain for speech: Evolutionary continuity in primate and human auditory-vocal processing. *Frontiers in Neuroscience* **12**, 174.

Augustin M (2025) AI-associated psychosis: Evidence from first cases. *Der Nervenarzt* **96**(7), 699.

Bellan R (2025) Sam Altman Says ChatGPT has Hit 800M Weekly Active Users. TechCrunch. Available at https://techcrunch.com/2025/10/06/sam-altman-says-chatgpt-has-hit-800m-weekly-active-users/ (accessed 26 January 2026).

Buchweitz A, Mason RA, Tomitch LMB and Just MA (2009) Brain activation for reading and listening comprehension: An fMRI study of modality effects and individual differences in language comprehension. *Psychology & Neuroscience* **2**, 111–123.

ChatGPT — Release Notes (2026) OpenAI Help Center. Available at https://help.openai.com/en/articles/6825453-chatgpt-release-notes (accessed 26 January 2026).

Deniz F, Nunez-Elizalde AO, Huth AG and Gallant JL (2019) The representation of semantic information across human cerebral cortex during listening versus reading is invariant to stimulus modality. *Journal of Neuroscience* **39**(39), 7722–7736.

Fang CM, Liu AR, Danry V, Lee E, Chan SWT, Pataranutaporn P, Maes P, Phang J, Lampe M, Ahmad L and Agarwal S (2025) How AI and Human Behaviors Shape Psychosocial Effects of Extended Chatbot Use: A Longitudinal Randomized Controlled Study. Available at https://arxiv.org/html/2503.17473v1 (accessed 26 January 2026).

Flavián C, Akdim K and Casaló LV (2023) Effects of voice assistant recommendations on consumer behavior. *Psychology & Marketing* **40**(2), 328–346.

Hill K (2025) A Teen was Suicidal. ChatGPT was the Friend he Confided in. *The New York Times*. Available at https://www.nytimes.com/2025/08/26/technology/chatgpt-openai-suicide.html (accessed 27 January 2026).

Kubota E, Grill-Spector K and Nordt M (2024) Rethinking cortical recycling in ventral temporal cortex. *Trends in Cognitive Sciences* **28**(1), 8–17.

Mims C (2026) Our Gadgets Finally Speak Human, and Tech will Never be the Same. *Wall Street Journal*. Available at https://www.wsj.com/tech/ai/voice-technology-ai-hardware-4d39f6d2 (accessed 25 January 2026).

Morrin H, Nicholls L, Levin M, Yiend J, Iyengar U, DelGuidice F, Bhattacharyya S, MacCabe J, Tognin S, Twumasi R, Alderson-Day B and Pollak T (2025) Delusions by Design? How Everyday AIs Might be Fuelling Psychosis (and what can be done about it). Available at https://doi.org/10.31234/osf.io/cmy7n_v6 (accessed 27 January 2026).

Olsen SG, Reinecke-Tellefsen CJ and Østergaard SD (2025) Potentially Harmful Consequences of Artificial Intelligence (AI) Chatbot Use among Patients with Mental Illness: Early Data from a Large Psychiatric Service System. https://doi.org/10.1101/2025.11.19.25340580.

OpenAI (2025) Strengthening ChatGPT's Responses in Sensitive Conversations. Available at https://openai.com/index/strengthening-chatgpt-responses-in-sensitive-conversations/ (accessed 26 January 2026).

Østergaard SD (2025a) Emotion contagion through interaction with generative artificial intelligence chatbots may contribute to development and maintenance of mania. *Acta Neuropsychiatrica* **37**, e79.

Østergaard SD (2025b) Generative artificial intelligence Chatbots and delusions: From guesswork to emerging cases. *Acta Psychiatrica Scandinavica* **152**(4), 257–259.

Pierre J, Gaeta B, Raghavan G and Sarma K (2025) "You're Not Crazy": A case of new-onset AI-associated psychosis. *Innovations in Clinical Neuroscience* **22**(10–12), 11–13.

Ruan S, Wobbrock JO, Liou K, Ng A and Landay JA (2018) Comparing speech and keyboard text entry for short messages in two languages on touchscreen phones. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies* **1**(4), 23.

Rzepka C, Berger B and Hess T (2022) Voice assistant vs. Chatbot – Examining the fit between conversational agents' interaction modalities and information search tasks. *Information Systems Frontiers* **24**(3), 839–856.

Zhang Y, Shen SX, Bibic A and Wang X (2024) Evolutionary continuity and divergence of auditory dorsal and ventral pathways in primates revealed by ultra-high field diffusion MRI. *Proceedings of The National Academy of Sciences of The United States of America* **121**(9), e2313831121.

https://doi.org/10.1017/neu.2026.10062 Published online by Cambridge University Press