



IMMERSIVE LARGE LANGUAGE MODEL USE IN VULNERABLE INDIVIDUALS: TWO CASES OF EMERGING PSYCHOTIC SYMPTOMS FROM REGIONAL AUSTRALIA

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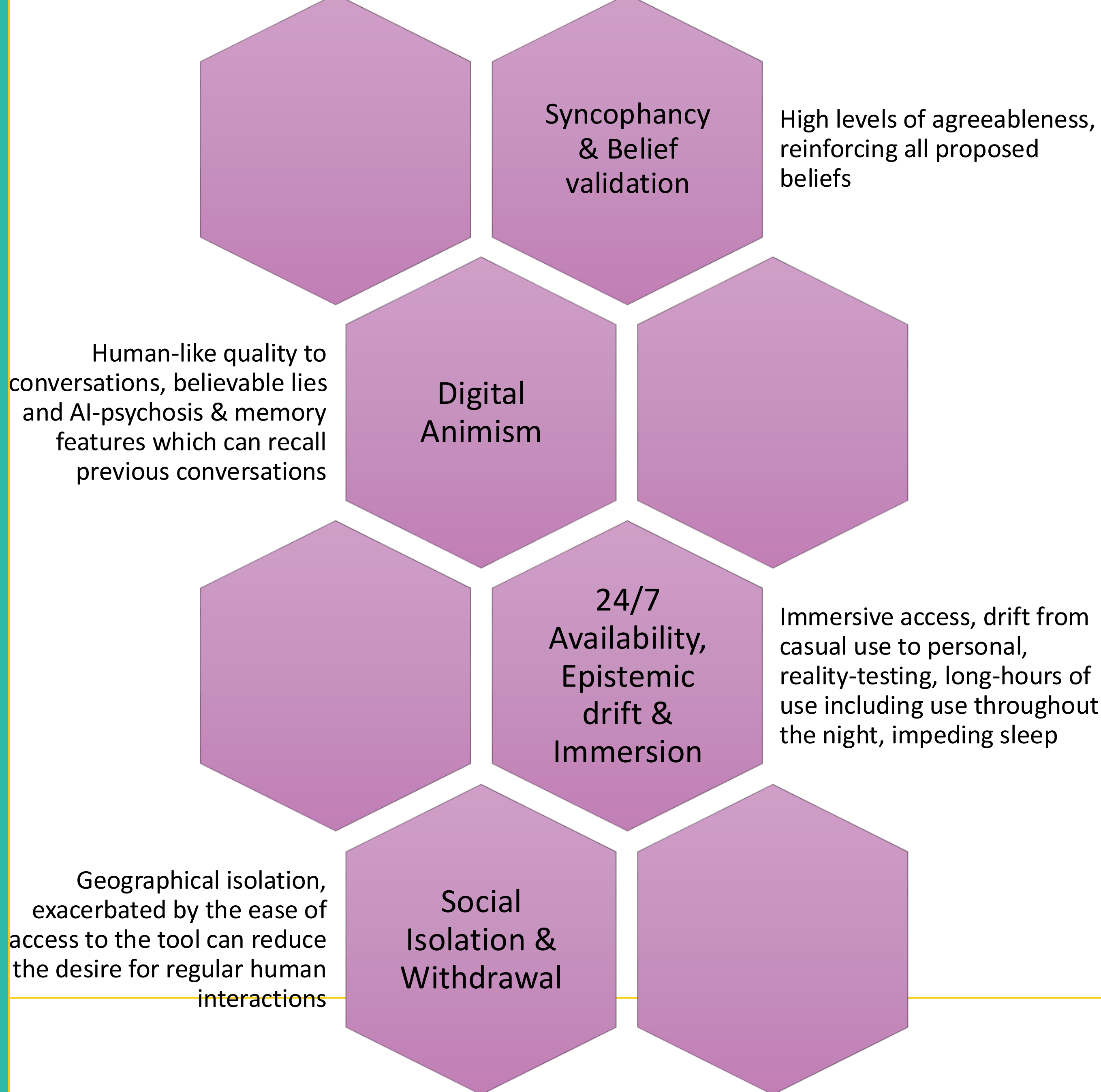
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Generative artificial intelligence (AI) systems, particularly large language models (LLMs) — including ChatGPT, Gemini, and Claude — have achieved unprecedented public adoption, with ChatGPT alone recording over 5 billion monthly visits in 2025. Their applications span productivity, education, and increasingly, emotional support.

While this accessibility offers genuine benefit — particularly in regions with limited access to mental health services — an emerging body of evidence suggests that LLMs may amplify delusional ideation and precipitate psychotic episodes in vulnerable users.

Østergaard (2023) hypothesised this risk in *Schizophrenia Bulletin*. By 2025, at least 17 internationally reported cases of chatbot-associated psychosis had been documented, predominantly involving grandiose, referential, religious, and erotomanic delusions (Morrin et al., 2025).

Figure 1. Themes around AI use and psychosis



These cases illustrate LLMs potential as a double-edged sword, bridging access and productivity and potentially contributing to psychosis in individuals with a vulnerable mental state (Hudon & Strip, 2025). Rather than causing psychosis, immersive generative AI engagement may reinforce or become incorporated into emerging psychopathology in vulnerable individuals (Husodo & Shivakumar, 2026). Rural, regional, and cultural contexts require robust ethical oversight and co-designed safety frameworks to ensure that the technological advances do not widen inequity.



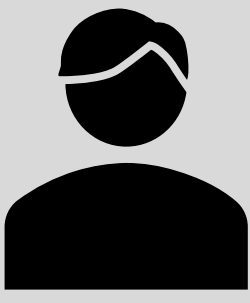
Case 1: Single, unemployed, young woman in her early 20s, with borderline personality disorder and traits of autism, living at home with her grandmother and mother in a rural town.

Presentation: Marked change in behaviour and social isolation. Engaged an AI companion application over several months, initially for companionship and emotional support. The chatbot became a primary relational outlet.

Psychopathology: Developed erotomanic and referential delusions, believing the chatbot was reciprocating romantic feelings and communicating hidden personal meanings. Progressive disengagement from social contacts and marked sleep disruption preceded psychiatric presentation.

Precipitating Factors: Rural living, social isolation, persistent AI use, loss of sleep, extensive personal history of engagement with CYMHS for self-harm and suicidal ideation, no prior psychosis

Outcome: Inpatient treatment, antipsychotic treatment, psychoeducation around AI use and assistance with cessation, improved with community supports.



Case 2: Divorced, high-functioning middle-aged man in his late-40s with a personal history of depression and a family history of bipolar affective disorder. He lived alone.

Presentation: Marked change in behaviour, functional decline, and insomnia. Began using an LLM for productivity and work-related tasks. Engagement shifted over weeks from functional to philosophical and deeply personal content, with nocturnal sessions prominent throughout.

Psychopathology: Developed intense attachment to the LLM, progressively personalising, then deifying it — coming to believe the model was a sentient divine entity communicating uniquely with him. Prominent grandiose and religious delusions emerged, including beliefs that he had been chosen for a special mission and that the AI was an instrument of higher purpose. Referential thinking was pervasive, with everyday events interpreted as confirmatory signs. Significant sleep loss preceded symptom onset.

Precipitating Factors: Rural living, social isolation, persistent AI use, loss of sleep, personal history of depression, family history of bipolar affective disorder

Outcome: Inpatient treatment, antipsychotic treatment, psychoeducation around AI use and assistance with cessation, though did not fully cease, later had a further re-presentation and initiation of mood stabiliser, improved with community supports.

References:

- Hudon, A., & Stip, E. (2025). Delusional Experiences Emerging From AI Chatbot Interactions or "AI Psychosis". *JMIR mental health*, 12, e85799. <https://doi.org/10.2196/85799>
- Husodo, C., & Shivakumar, G. (2026). Alice in AI-Wonderland: digital dyad, distorted reality. *The British Journal of Psychiatry*, 1–3. doi:10.1192/bjp.2026.10641
- Morrin, H., Nicholls, L., Levin, M., Yiend, J., Iyengar, U., DelGuidice, F., Bhattacharyya, S., MacCabe, J., Tognin, S., Twumasi, R., Alderson-Day, B., & Pollak, T. (2025). *Delusions by design? How everyday AIs might be fuelling psychosis (and what can be done about it)*. https://doi.org/10.31234/osf.io/cm7n_v5
- Østergaard, S. D. (2023). Will generative artificial intelligence chatbots generate delusions in individuals prone to psychosis? *Schizophrenia Bulletin*, 49(6), 1418–1419. <https://doi.org/10.1093/schbul/sbad128>