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Letter

An educational tool using artificial-intelligence-generated visualisations to improve teaching of psychiatric symptom characterisation

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Psychiatric symptom characterisation; artificial intelligence; psychiatric education; pedagogical innovation; clinical reasoning.

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There is growing interest in returning to a foundational framework for psychiatry centred on clinical manifestations (i.e. psychiatric symptoms).[1] Although historically designed for diagnostic standardisation and reliability, current diagnostic classifications[2] such as the DSM and ICD have come to occupy roles that were not initially intended for them. In particular, these international classifications have gradually taken on an educational role they were not originally meant to serve.

Clinical training is an important means of teaching how to collect, describe and interpret psychiatric symptoms.[3,4] However, it often lacks structured tools and explicit pedagogical frameworks that would help future psychiatrists to approach these symptoms with the level of nuance, reliability and precision currently expected. Although recent literature highlights the necessity of precisely characterising psychiatric symptoms,[1] this shift has not yet been sufficiently integrated into psychiatric teaching practices.

Improving the teaching of psychiatric symptoms requires novel approaches that integrate clinical expertise, emerging technologies and evidence-based learning strategies. These include direct clinical observations, structured assessment instruments, experiential learning, digital tools and interdisciplinary methods incorporating the medical humanities. Among learning strategies, visualisation in particular can improve the teaching of clinical symptoms by promoting clearer and more shared understandings across disciplines.[5] Moreover, playful learning represents a particularly interesting means of engaging psychiatric trainees with characterisation of psychiatric symptoms, especially when game-based activities are combined with visual tools to structure clinical knowledge.[6]

In this way, the *Association pour l'Enseignement de la Sémiologie Psychiatrique* (AESP; French Association for the Teaching of Psychiatric Symptoms), a non-profit educational organisation, has developed a teaching-related card game based on artificial intelligence (AI) (Fig. 1). This seven-family card game, centred on the use of illustrations of psychiatric symptoms, was designed for both psychiatric trainees and healthcare professionals.

The development of this educational game followed a rigorous four-step method. First, psychiatric symptoms were selected and organised under the supervision of psychiatrists, with the aim of precisely identifying and defining the symptoms to be included in the game. This process was based on the national French reference textbook developed by the AESP for French medical students, as well as the collective expertise of members of the association.[1]

Second, the game was structured around seven primary families of psychiatric symptoms: the Clérambault family (schizophrenia symptoms), Falret family (depression symptoms), Esquirol family (mania symptoms), Beck family (anxiety symptoms), Rush family (addiction symptoms), Charcot family (somatoform symptoms) and Kanner family (neurodevelopment symptoms), with three additional Joker cards representing transdiagnostic severity situations (agitation, catatonia and suicide symptoms). The family names used in this framework reference key historical figures in psychiatry, reinforcing the discipline's historical foundations and aligning the framework with the tradition of classical psychiatry.[7] Details of symptoms within each family are given in Supplementary Material 1 available at https://doi.org/10.1192/bjp.2025.10464.

Third, successive image generations with iterative refinements (by modifying each card image prompt an average of five to six times) were implemented, incorporating stigma surveillance to minimise cultural biases and ethical challenges (e.g. potential misrepresentations). Visual harmonisation of symptom families was carried out.

Fourth, the creation and layout of the seven-family card game itself was carried out; this included the development of rules and variants (in order of increasing difficulty: (a) with the list of symptoms and their description, (b) with the list but without the descriptions, (c) without the list or the descriptions, by remembering the symptoms), a booklet, a box set, and professional editing and distribution work, accompanied by an initial round of playtesting with experts and students.

The AI-assisted development of such an educational tool requires reasoned and ethical use of machine-generated representations of psychiatric symptoms. Significant concerns arise regarding how AI models shape psychiatric representations, notably in terms of clinical, cultural and ethical implications.[8] Current AI models primarily reflect cultural perceptions rather than empirical clinical patterns, reproduce historical biases and stereotypes, or generate dynamic outputs requiring continuous clinical control.[9] The risk of stigma is particularly pronounced when AI-generated images are used to depict psychiatric conditions.[8] This necessitates active collaboration between AI developers and clinical practitioners to create accurate educational tools in psychiatry.[10] Specifically, educational AI-generated imagery requires both clinical and pedagogical expertise to ensure the medical relevance and appropriateness of the visual outputs.

Initial feedback from psychiatry trainees and professional healthcare indicates a high level of acceptability among the target audience, as well as meaningful support for learning key psychiatric

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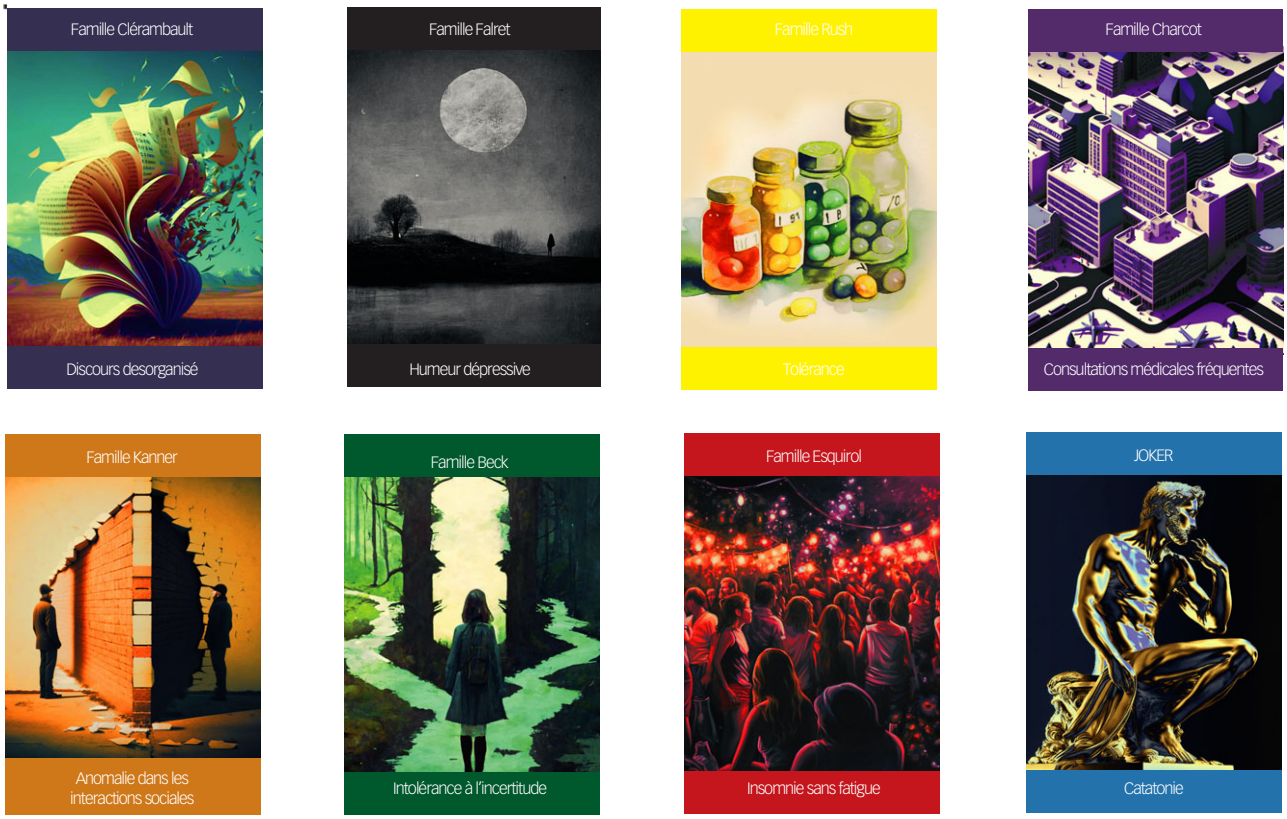


Fig. 1 Example of one card from each of the seven families from the card game designed for teaching psychiatric symptoms, developed by the *Association pour l'Enseignement de la Sémiologie Psychiatrique*. Each family comprises six symptom-based cards. The families are labelled as follows: Clérambault (schizophrenia symptoms), Falret (depression symptoms), Esquirol (mania symptoms), Beck (anxiety symptoms), Rush (addiction symptoms), Charcot (somatoform symptoms) and Kanner (neurodevelopmental symptoms); in addition, the game includes three Joker cards representing severe, complex and/or transdiagnostic symptoms. The game is built on a selection of symptom representations generated by artificial intelligence (Midjourney version 6.1), following a rigorous clinical and ethical validation framework. Details of symptoms within each family are given in Supplementary Material 1 available at https://doi.org/10.1192/bjp.2025.10464.

symptoms, although no formal and structured evaluation has yet been conducted. Future developments will thus focus on evaluating the effectiveness of this game in teaching clinical manifestations in psychiatry, to iteratively adapt and improve it across successive versions. The impact of this game on the collection, description and interpretation of psychiatric symptoms will have to be investigated, as will the impact on trainees of possible negative representations of mental disorders (i.e. stigma). Such studies require a structured pedagogical research protocol to assess the game's impact and support growing interest in the precise characterisation of psychiatric symptoms.[1] Other developments may also include refining how the game is implemented within different educational settings, exploring progressive learning formats, or introducing thematic variations adapted to specific subspecialties or levels of clinical expertise. Finally, more generally, gamification should not replace traditional forms of learning, which remain at the core of psychiatric education, but rather complement them by relying on the importance of visual representation, increasing engagement with a topic and supporting the diversification of learning formats, with the final aim of facilitating knowledge transfer to everyday clinical practice.

In conclusion, this educational card game represents a development in the teaching of psychiatric symptom characterisation, providing trainees and professionals with a structured, interactive and symptom-focused approach to learning. The integration of generative AI offers a promising tool that is capable of enriching learning experiences when used carefully and contributing to the teaching of psychiatric symptoms – provided it is guided by clinical expertise and involves rigorous selection of images to ensure relevance and ethical integrity.

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Supplementary material

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In the writing of this manuscript, we used ChatGPT 4.0 for English editing, given our non-native English-speaking backgrounds. We have reviewed the content and take full responsibility for the content of the publication.

Author contributions

C.G.: Writing – original draft preparation, conceptualisation, methodology, editing. **AESP Group Study**: supervision, review, validation, methodology, editing, validation. The authors undertook critical revision of the manuscript for intellectual content, significantly contributed to the manuscript and approved the final version.

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References

1 Leucht S, van Os J, Jäger M, Davis JM. Prioritization of psychopathological symptoms and clinical characterization in psychiatric diagnoses: a narrative review. *JAMA Psychiatry* 2024; **81**: 1149–58.

2 McGorry PD, Hickie IB, Kotov R, Schmaal L, Wood SJ, Allan SM, et al. New diagnosis in psychiatry: beyond heuristics. *Psychol Med* 2025; **55**: e26.

3 Micoulaud Franchi J-A, Martin VP, Quilès C. The domestication of descriptive psychopathology: a proposal for a graphic organization of the adult psychiatric *thesaurus semeioticus* in adults. *JAMA Psychiatry* 2025; **183**: 101–11.

4 AESP (Association pour l'Enseignement de la Sémiologie Psychiatrique), CNUP (Collège National Universitaire de Psychiatrie). *Référentiel de psychiatrie : Psychiatrie de l'adulte. Psychiatrie de l'enfant et de l'adolescent. Addictologie*. 4e éd. Issy-les-Moulineaux: Elsevier Masson; 2014. 600 p. ISBN : 978-2-86906-377-8.

5 Gauld C. Beyond diagnosis: using symptom networks for predictive and mechanistic insights in psychiatry. *JAMA Psychiatry* 2024; **81**: 1055–6.

6 Katonai Z, Gupta R, Heuss S, Fehr T, Ebneter M, Maier T, et al. Serious games and gamification: health care workers' experience, attitudes, and knowledge. *Acad Psychiatry* 2023; **47**: 169–73.

7 Berrios GE. *The History of Mental Symptoms: Descriptive Psychopathology Since the Nineteenth Century* 1st ed. Cambridge University Press, 1996.

8 Flathers M, Smith G, Wagner E, Fisher CE, Torous J. AI depictions of psychiatric diagnoses: a preliminary study of generative image outputs in Midjourney V.6 and DALL-E 3. *BMJ Ment Health* 2024; **27**: e301298.

9 Monteith S, Glenn T, Geddes JR, Whybrow PC, Achtyes E, Bauer M. Artificial intelligence and increasing misinformation. *Br J Psychiatry* 2024; **224**: 33–5.

10 Rocheteau E. On the role of artificial intelligence in psychiatry. *Br J Psychiatry* 2023; **222**: 54–7.

https://doi.org/10.1192/bjp.2025.10464 Published online by Cambridge University Press