## Classification of Mental Disorders

### EPP284

### LLM-Powered Evolutionary System for Generating Large-Scale Databases in Speech-Related Psychiatric Conditions

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**Introduction:** In clinical studies on psychosis prediction, small sample sizes have been a persistent issue. Most studies rely on limited data, lack cross-validation, and use poor model strategies, leading to overfitting and overestimated accuracy. This challenge also affects traditional studies, where recruiting few participants introduces biases. Data harmonization is another hurdle, especially in speech analysis, which is crucial in psychiatry for conditions like psychosis, aphasia, and PTSD, but suffers from inconsistent methodologies across databases.
**Objectives:** Our goal was to develop an method using Large Language Models (LLMs) to create diverse, synthetic speech datasets, addressing these challenges: 1. Develop an evolutionary system for optimizing high-quality speech data generation. 2. Incorporate contrastive learning for improved model decision boundaries. 3. Provide a methodology for training classification models and conducting cross-cultural studies. 4. Create a large-scale, diverse database of synthetic psychiatric speech samples.
**Methods:**
**Results:** We presented a case study focused on the phenomenon of "Illogical Thinking," a language disorder proven to correlate with psychosis risk. Results:

1. Top-performing LLMs: Claude Sonnet 3.5 and GPT-4.
2. Optimal prompt structure determined
3. Database size: 3,000 samples
4. Computational efficiency: 200 evolutionary steps, 400 API calls
5. High data quality and diversity
6. Useful rationales for developing explainable models

**Image 1:**

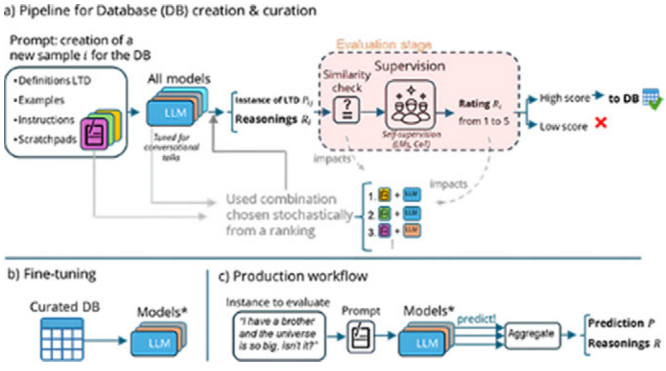
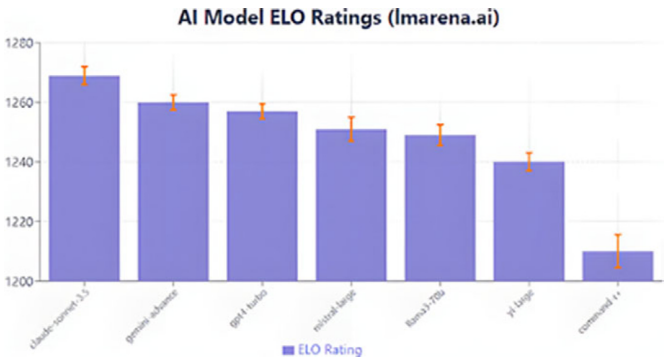



**Image 2:**




**Conclusions:** Our findings suggest that this approach could significantly benefit psychiatric research by addressing the challenges of small sample sizes and data inconsistency. The method shows promise for creating more reliable and generalizable predictive models, which could lead to advancements in mental health care practices. The system's flexibility indicates potential applications beyond our case study, possibly extending to other areas where data scarcity has impeded progress.

**Disclosure of Interest:** None Declared

## Philosophy and Psychiatry

### EPP285

### Is it possible for artificial intelligence (AI) to develop a personality?

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**Introduction:** The development of artificial intelligence (AI) has led to significant advancements in various fields, including mental health applications. As AI technologies like ChatGPT continue to evolve, questions have arisen about whether AI can eventually develop a true personality, and what implications this might have for fields such as psychology and psychiatry. Isaac Asimov's ideas about AI and the Turing test have gained renewed attention, yet these frameworks do not address the core psychological components such as empathy, emotion, and personal interaction—key elements in therapeutic settings.
**Objectives:** This article explores whether AI could develop a personality and replace human therapists in psychological counseling and psychiatry. Specifically, it aims to evaluate AI's current capabilities in providing emotional and psychological support and to address whether AI can evolve to meet therapeutic practice's deeper, human-centered requirements.
**Methods:** The analysis is based on reviewing current AI applications in mental health, such as AI-based therapy platforms for post-traumatic stress disorder (PTSD), which provide symptom management tools and promote adaptive coping strategies. These applications were compared to the human therapist's role,

focusing on emotional interaction, empathy, and the therapeutic relationship. Additionally, the philosophical and psychiatric aspects of personality formation in both humans and AI were examined.
**Results:** AI systems have made progress in simulating therapeutic techniques, providing guidance, and mimicking emotional responses. They can support symptom relief and enhance coping strategies, especially in areas where human therapists are scarce. However, AI's ability to engage with deeper aspects of the therapeutic process, such as emotional empathy and personal connection, remains limited. AI lacks subjective experience, emotional depth, and self-awareness—essential factors for forming a genuine personality.
**Conclusions:** While AI has the potential to augment clinical practice, it cannot replace the human element in therapy. The development of AI-based tools is valuable for symptom management, but psychotherapy is inherently rooted in human connection, intuition, and emotional engagement—qualities AI does not possess. For AI to truly replace human therapists or develop a personality, significant advancements in consciousness and emotional cognition would be required, which remain speculative at this stage. Thus, AI will likely continue to serve as a supportive tool rather than a replacement for human therapists in the foreseeable future.

**Disclosure of Interest:** None Declared

## Consultation Liaison Psychiatry and Psychosomatics

### EPP286

### The Role of Gut Microbiome in Psychiatric Disorders

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**Introduction:** Emerging evidence on the bidirectional connection between gastrointestinal microbiota and brain, through the gut-brain axis, and its influence on mental disorders makes the gut microbiota a potential target for novel therapeutic approaches.
**Objectives:** We aim to study and synthetize the current data about the influence of gut microbiome on psychiatric disorders.
**Methods:** Our literature research focused on some of the most significative English-written articles published in the last decade.
**Results:** Most of the relevant literature suggests that the presence of a healthy and diverse gut microbiota is essential to normal cognitive and emotional processing. Also, it has been shown that consumption of probiotics can modify the functional activity of the areas in the brain that are implicated in cognitive functions.
The literature also supports that stress can change gut permeability as well as the composition of gut microbiota resulting in a pro-inflammatory profile of cytokines produced by gut microbiota. Besides, gut microbes can modulate the stress response and the level of anxiety through alterations in serotonin signaling.
It has been also demonstrated that in animal models of depression the composition of gut microbiota was changed. On the other hand, other studies demonstrated certain probiotics can attenuate depressive symptoms in rodent models.
Regarding eating disorders, Anorexia Nervosa seems to have impact on the gut microbiota balance through restrictive diets and the abrupt change in diet during nutritional rehabilitation. The use of prebiotics, probiotics, antibiotics or faecal transplantation looks promising as important novel adjuvant treatments.
**Conclusions:** The effect of gut microbiota on several mental disorders is supported by a increased volume of experimental data. However, research in this field is still unfolding and more studies should be performed to apply new techniques focusing on gut-brain axis in clinical practice.

**Disclosure of Interest:** None Declared

### EPP287

### Psychedelic-assisted therapy for functional neurological disorders: a review of the literature

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**Introduction:** Functional neurological disorders (FND), also referred to as conversion disorder or psychogenic neurological disorders, are one of the most common and disabling conditions in the neurology practice field, with very limited treatment options. FNDs present with sensory and/or motor symptoms that can mimic other neurological conditions, but appear to be related to recognizable psychological factors and are thought to occur via mechanisms other than those related to identifiable structural neuropathology. This condition has very limited treatment options, but there is preliminary evidence that psychedelic-assisted therapy (PAT) might be effective in a growing number of psychiatric disorders, including FNDs.
**Objectives:** We aim to review the current literature regarding the role of psychedelic-assisted therapy in the treatment of functional neurological disorders.
**Methods:** We search PubMed with the following keywords: psychedelics, functional neurological disorder and conversion disorder.
**Results:** Only nine studies were published, between 1954 and 1967, reporting the use of psychedelics in the treatment of FNDs, with a total of 22 patients, of which 69% ($n$ = 18) were found to have made at least some recovery, though the included studies were of low quality, often lacking control groups and valid outcome measures.
**Conclusions:** There is a lack of evidence for the efficacy of PTA on the treatment of FNDs. Nevertheless, the discussion remains, as several abnormalities of the default mode network activity (DMN) have been reported in patients with FND and many of the proposed

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