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Коли чат-боти на основі ШІ зможуть замінити психологів-консультантів?

Анотація. *Цілісна заміна психологів на віртуальних асистентів зі ШІ, здатних до надання психологічної підтримки, видається у короткостроковій перспективі майбутнього недоцільним рішенням через обмеженість можливостей ШІ та роботобудівництва.*

Ключові слова: ШІ, чат-бот, психолог, консультування, психотерапія, психопрофілактика, психоедукація.

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When will AI-based chatbots be able to replace counseling psychologists?

Abstract. *The complete replacement of psychologists with AI-powered virtual assistants capable of providing psychological support seems an impractical solution in the near future due to the limitations of AI and robotics.*

Keywords: AI, chatbot, psychologist, counseling, psychotherapy, mental health prevention, psychoeducation.

The question of whether a chatbot using AI technologies can fully replace a counseling psychologist is one of the most pressing for modern psychology and philosophy. The answer is neither simple nor unequivocal, requiring a thoughtful examination of the essential principles behind the functioning of such chatbots, including their psychological and technological aspects.

AI, used by modern chatbots providing psychological support and assistance, is capable of learning, mimicking human communication, and adapting to the specific characteristics of individuals. This enables personalized, meaningful dialogues with users, offering emotional support (or, more precisely, high-quality imitation of such support), developing strategies for further action, recommending certain psychodiagnostic techniques, and, based on the results and shared information during communication, suggesting exercises for psychological self-help. In dangerous cases, the AI can advise the user to urgently contact professional psychologists (i.e., humans). The advantages of chatbots are clear: 24/7 accessibility, personalization, and

cost-effectiveness. Additionally, anonymity is another benefit, though it is not always fully ensured.

One of the downsides of AI chatbots is their inability to empathize, as AI-based chatbots are still incapable of experiencing emotions. However, the effectiveness of psychological counseling does not depend on whether the psychologist feels empathy for the client, but on how the signs of empathy are manifested in the interaction between the psychologist and the client. This refers to attentiveness to the client's state, experiences, and acquired experiences, timely supportive words, appropriately posed questions, etc. What matters is whether the client perceives the consultant's attitude as attentive, empathetic, and responsive. Signs of such an "attitude" from the psychologist can be reproduced by a chatbot in its interaction with users, achieving the necessary imitation of this attitude. The quality of such imitation improves with advances in AI technology.

Another drawback is the chatbot's lack of intuition and limited creative thinking. This is indeed a constraint for AI chatbots that provide psychological support. During sessions, human psychologists often rely on their intuition and creativity, which help them grasp clients' individual situations and devise effective (sometimes unconventional, unique, and yet highly efficient) strategies to achieve desired goals. While AI can simulate emotional patterns, it cannot yet emulate this human ability. Nevertheless, AI does exhibit certain signs of creativity and originality in its decisions, potentially improving the effectiveness of interactions with people.

Finally, one significant but temporary limitation of AI chatbots providing psychological support is their inability to engage in physical interaction. In working with a human psychologist, not only what they say matters, but also how they say it and how they behave – their facial expressions, gestures, breathing, posture, appearance, physical distance from the client, volume, and tone of voice, among other factors. Non-verbal and paraverbal communication between the psychologist and client often play a greater role during sessions than the verbal content. Until chatbots have functional physical "bodies" and speech synthesizers capable of conveying the full richness of paraverbal communication, AI remains limited in its interaction with users.

Given the main advantages and disadvantages of modern chatbots providing psychological consulting services, can they be considered psychologists? From a legal perspective, no. According to Ukrainian law, a psychologist is a specialist with a full higher education in psychology (master's or specialist degree). Clearly, AI cannot yet possess higher education because, even if AI could acquire the necessary knowledge, skills, and abilities, there are no developed or implemented standards for evaluating "non-humans" in such cases (Ministry of Health of Ukraine, 2008).

Legislation may change over time. But can a chatbot be considered a psychologist (specifically a counseling psychologist) based on its competencies? A counseling psychologist is a subject who meets certain requirements:

● Has professional training in psychological counseling or psychotherapy (not just a higher education in psychology but at least one specialization obtained through relevant certified training programs and courses), acquiring the necessary knowledge and skills;

- Possesses work experience;
- Adheres to the ethics of a practicing psychologist;
- Undergoes supervision when necessary;
- Engages in and ensures their professional development.

Point 1 brings us back to the unpreparedness of higher education systems and training programs in assessing AI, as well as the lack of necessary standards. For example, in certified courses on certain areas of psychological counseling, trainees must complete a certain number of hours of psychological practice or even take on the role of a "client." How can AI fulfill this requirement? How should it receive information from the course instructor – via an installed camera and microphone, or through some other means? And how should AI participate in pair or group exercises? Currently, there are far more questions than answers. The implementation of point 1 is complicated not so much by a lack of the necessary technologies but by the unpreparedness of educational and certification standards regarding AI, as well as by expected ethical questions and significant bureaucratic procedures related to their development and implementation. With active interdisciplinary, internationally directed work in this area, results could be expected within 5-10 years.

Point 2 is easier to accomplish since, before public launch, the chatbot undergoes (or should undergo) experimental testing with many users, handling various requests and covering different focus groups. This experimental testing can be considered experience – on a scale that most practicing psychologists do not possess.

Point 3 has already been implemented in chatbot operations to some extent. This involves the protection of users' confidential information (though implemented with varying degrees of rigor), harm prevention, safeguarding the lives and health of others (e.g., in cases of planned unlawful actions by a user, law enforcement should be informed), and the use of evidence-based methods, among others.

Point 4 can also be considered implemented to some degree, as professional psychologists assess the features of chatbots providing psychological support and consulting services. They may review the content of conversations (if allowed by privacy policies) and provide developers with descriptions of necessary updates to the chatbot's algorithms. This monitoring and adjustment can be regarded as an analogy to supervision.

Point 5 is the most challenging to implement given the current state of AI technology development. Professional development, in this case, refers to AI's ability to create or choose its own goals and take responsibility for itself – that is, its subjectness. With subjectness, the chatbot's functioning would become activity, and it would become responsible for the outcomes of its actions (as opposed to developers, as is the case now). The chatbot's professional development would become its intentional self-improvement as a counseling psychologist, or even more – as a digital individual. For now, AI cannot independently set or choose its own goals, instead using those provided by humans.

Predicting even relatively accurately when scientific and technological progress will allow AI to achieve subjectness is difficult due to the unpredictable nature of AI research advancements. In the case of rapid progress, as described by former OpenAI researcher Leopold Aschenbrenner, AI subjectness could emerge by 2030

(d'EsteFormer & Ana, 2024). If research slows, as some scientists and industry CEOs are currently advocating, subjectness might be expected in 10-20 years (Future of Life Institute, 2023).

A complete replacement of psychologists by AI virtual assistants providing psychological support seems impractical and ineffective in the short term (at least in the next few years) due to the limitations of AI and robotics. More likely, the psychological field will evolve with the integration of many psychologists using chatbots, enabling a strengthened combined effect. For example, chatbots could be used as a tool for initial diagnostics, providing basic information and psychological support between counseling sessions, as well as digital coaches that continually support users in achieving personal growth, improving health, or developing businesses. However, addressing complex psychological issues such as deep psychological trauma, addictions, chronic anxiety, PTSD, and existential crises will still require work with a human psychologist in the traditional format.

Further technological progress, ethical oversight, and the implementation of new standards in psychological counseling will eventually allow human psychologists to be replaced by AI in more complex cases. As current predictions suggest, AI chatbots will be ready for this in 5 to 20 years. As for the situational partial "substitution" of counseling psychologists, AI-based chatbots already demonstrate effectiveness in their work today. They can engage in dialogues with users, provide educational and psychological resources, and offer evidence-based methods for self-help. Additionally, AI chatbots help create and maintain a favorable environment for goal-setting and achievement, supporting users along the way. Virtual assistants using AI technologies are particularly effective in coaching, helping users with self-reflection, structuring their goals, and improving their overall psycho-emotional state. However, such a "substitution" of counseling psychologists is only possible in cases that do not require deep psychotherapeutic intervention, where users are directed by the chatbots to qualified human specialists (Panok et al., 2024a, 2024b).

References

1. Ministry of Health of Ukraine. (2008, April 15). *Order No. 199: On the approval of the procedure for conducting medical examinations of employees in certain categories*. https://zakon.rada.gov.ua/laws/show/z0577-08#Text (accessed 21 September 2024) [in Ukrainian].

2. d'EsteFormer, V., & Ana. (2024, September 17). OpenAI researcher unveils the exponential rise of AI capabilities and the path towards AGI. *Metaverse Post.* https://mpost.io/former-openai-researcher-unveils-the-exponential-rise-of-ai-capabilities-and-the-path-towards-agi/ (accessed 21 September 2024).

3. Future of Life Institute. (2023, March 29). Pause giant AI experiments: An open letter. *Future of Life Institute.* https://futureoflife.org/wp-content/uploads/2023/05/FLI_Pause-Giant-AI-Experiments_An-Open-Letter.pdf (accessed 21 September 2024).

4. Panok, V., Shevchenko, A., Nazar, M., Starkov, D., Meshcheriakov, D., & Shevtsov, A. (2024). Metodolohichni zasady rozrobky navchalno-psykholohichnoho chat-bota [Methodological principles for the development of an educational-

psychological chatbot]. Informatsiini tekhnolohii i zasoby navchannia [Information Technologies and Learning Tools] (in press) [in Ukrainian].

5. Panok, V. H., Nazar, M. M., & Starkov, D. Yu. (2024). Pro metodolohiiu rozrobky chat-bota na osnovi shtuchnoho intelektu dlia psykholohichnoi pidtrymky hromadian Ukrainy [On the methodology for developing an AI-based chatbot for psychological support for Ukrainian citizens]. In Virtualnyi osvitnii prostir: psykholohichni problemy [Virtual Educational Space: Psychological Issues]. XII Mizhnarodna naukovo-praktychna internet-konferentsiia, 10 travnia – 10 chervnia 2024 r.: tezy dopovidei [XII International Scientific and Practical Internet Conference, May 10 – June 10, 2024: Conference abstracts]. https://newlearning.org.ua/sites/default/files/tezy/2024/Panok_Nazar_Starkov_2024.pdf (accessed 23 September 2024) [in Ukrainian].

AI involvement in material preparation: ChatGPT by OpenAI was involved in the stylization of the material and the translation of text segments into English.