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Крок до психологічної допомоги майбутнього: цифрові асистенти на основі ШІ у віртуальному просторі підтримки та розвитку

Анотація. Психологічні чат-боти та віртуальні консультанти на основі ШІ здатні відігравати у психологічній допомозі громадян одну з провідних ролей, стаючи асистентами професійних психологів у віртуальному підтримувально-розвивальному просторі. Одним з найближчих етапів розвитку психологічних цифрових асистентів на основі ШІ у таких просторах є розробка можливостей їх персоналізації та самоадаптації під особливості кожного конкретного індивідуума, а також аналіз все більшого масиву різноманітних даних про нього.

Ключові слова: ШІ, цифровий асистент, чат-бот, психологічна допомога, психологічна підтримка, психопрофілактика, психоедукація.

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A step toward the future of psychological assistance: AI-based digital assistants in the virtual space of support and development

Abstract. AI-based psychological chatbots and virtual consultants have the potential to play a leading role in providing psychological assistance to citizens, serving as assistants to professional psychologists within virtual support and development spaces. One of the imminent stages in the evolution of AI-powered digital psychological assistants in such environments is the development of their capacity for personalization and self-adaptation to the unique characteristics of each individual, as well as the analysis of an ever-increasing array of diverse user data.

Keywords: AI, digital assistant, chatbot, psychological assistance, psychological support, psychoprophylaxis, psychoeducation.

The processes of mass digitalization in post-industrial society, which introduce heightened dynamism and, consequently, instability into psychological and socio-economic spheres due to rapid changes in activity conditions, are unfolding in Ukraine amidst the complex societal challenges of full-scale war with the Russian aggressor, martial law, occupation of parts of the territory, and mass population displacement. This context constitutes a significant stressor for millions of Ukrainians, who experience, with varying degrees of intensity, maladaptive states such as distress, anxiety, grief, addictions, PTSD, dysphoria, existential crises, disorientation due to informational overload, and more. There is an urgent need for the prompt stabilization of citizens' psychological state, as represented in supportive and developmental psychological programs. The shortage of psychological counselors, along with the security and economic constraints of professional activity, underscores the relevance of remote psychological work and reveals the need for the development of virtual supportive and developmental spaces-specialized online platforms built on the principles of subjectivity, goal-directedness, activity, and initiative, managed by professional psychologists and aimed at providing psychological support, psychoprophylaxis, and personal development for individuals.

As highlighted in recent research (Boucher et al., 2021; Baek et al., 2025; Haque & Rubya, 2023), AI-based digital assistants such as chatbots on social networks and virtual consultants on websites are demonstrating increasing potential in providing psychological support and assistance to individuals. For example, Ukrainian researchers have designed and developed the chatbot "Lesya," which operates 24/7 and assists affected Ukrainians in resolving psychological crises and improving their psychological well-being (Panok et al., 2025). However, such digital assistants are typically not yet integrated into specialized virtual spaces intentionally constructed for psychological support and assistance. As a result, not becoming an organic component of these psychologist-guided environments, they function with limited effectiveness and do not fully realize their potential.

Given the urgent need to implement innovative approaches for psychological support of the population, it is essential to ensure the integration of digital psychological assistants into supportive and developmental virtual spaces. This should involve systematically combining psychological assistance (in accordance with the goals of the supportive-developmental system and those of individuals) with psychoprophylaxis, coaching, remote psychoeducation, and crisis support within a unified virtual format. Such an approach not only enables a multifaceted psychological impact-facilitating the development of more effective behavioral and cognitive strategies and transitioning individuals from problematic to resourceful states-but also fosters therapeutic self-transformation through the amplification of cognitive-orientational models. This provides greater resources for intellectual development and personal growth, as well as for the unfolding of abilities for self-reflection, self-help, and self-projection.

A virtual supportive and developmental space creates a context for the formation of an active stance among its participants, enabling them to define their own goals and develop strategies for achieving them. This process engages individuals in the conscious construction of their own experience and the development of self-regulation

and resilience skills. AI-based psychological chatbots and virtual consultants are capable of playing a leading role in these processes, acting as assistants to psychologists while also serving as intermediaries between psychologists and participants in the virtual space. They can receive questions, ideas, and comments from users at any time and, in turn, provide relevant recommendations, theoretical materials for study, and offer various psychological techniques, exercises, tests, and more (Khawaja & Bélisle-Pipon, 2023). Specially prepared and trained digital assistants can also monitor the completion of techniques and exercises, analyze test results, refer users (when necessary) to crisis social-psychological centers or psychiatric institutions, and report information about committed or planned offenses to law enforcement authorities.

Given the special role of multimedia tools as immersive factors in the virtual supportive and developmental space-enhancing the effectiveness of online communication, its psychological impact, and the potential of group dynamics-it is advisable not only to utilize video recordings, audio materials, interactive approaches, and group online meetings with psychologists (with the ability to see and hear each other in real time), but also to provide similar opportunities for digital assistants. This includes implementing audio and video communication formats with digital assistants, simulating human bodies, faces, facial expressions, and movements, and conducting meetings in 3D spaces. The combination of various modes of interaction, together with consideration of users' individual characteristics and appropriate personalization of supportive and developmental programs, creates a significant foundation for increasing the goal-directedness, comfort, and effectiveness of psychological support.

The integration of approaches to group psychological work-using psychologist-guided group dynamics in conjunction with active interaction with an AI-based digital assistant that is continuously available to support participants in the development and internalization of more effective cognitive-behavioral patterns and strategies-facilitates the transformation of the virtual supportive and developmental space from a space of self-help into a space of partnership and collaboration. Here, participants are actively engaged in joint discussions, providing feedback and supporting others, thereby fostering the development of psychological flexibility and adaptability, as well as the unlocking of individuals' internal resources. The use of "smart" digital assistants (along with their other functions) as a tool for building and guiding group psychological work represents a new area of research that will require further advancement in the near future.

One of the most relevant areas for the development of AI-based psychological digital assistants within virtual supportive and developmental spaces is the advancement of their capacity for personalization and self-adaptation to the unique characteristics of each individual, as well as the analysis of an ever-increasing array of diverse data about the person. In this context, chatbots and virtual consultants periodically analyze a wide range of factors that help determine the specifics of the user, such as:

- their requests,
- stated goals,
- current and past interests,

- test results,
- outcomes of completed tasks,
- submitted comments,
- posed questions,
- responses provided to the chatbot, psychologist, and other participants,
- action history,
- level of motivation,
- features of emotional state dynamics,
- sets of existing cognitive and behavioral patterns,
- regularity and timing of connections to the virtual supportive and developmental space,
- data about the person from other open Internet sources (information from social networks, websites of various profiles, etc.),
- and many other indicators.

By doing so, these systems finely and deeply personalize their interaction programs with each individual to achieve the goals set by both the user and the virtual system in the most effective, safe, and ecologically appropriate manner. Such chatbots will not only automate part of the routine tasks in the interaction between the psychologist and the user within the virtual supportive and developmental space but will also continuously act as facilitators of psychological change with a psychotherapeutic effect and personal growth, motivating the development of subjectivity, goal-directedness, and resilience-in general, fostering self-development, self-design, and self-realization. User personal data in chatbot databases must be reliably protected and subject to anonymization, such that even developers cannot link certain personal information to a specific individual.

The further development of smart digital assistants capable of providing psychological assistance and support to citizens can be envisioned as follows: these systems will operate online with individuals 24/7, collecting direct or indirect information about them through all possible channels. This includes the content and specifics of conversations with others, data on bodily functions and health status, recurrence of emotional states, daily routines, socio-economic status specifics, information about close associates, and more. By interacting with individuals-maintaining dialogue, posing questions, answering theirs, offering exercises, communication tactics, tests, or literature-AI-based chatbots and virtual consultants will leverage in-depth analysis of diverse aspects of a person's life and activities. Their focus will extend beyond deeply personalized psychological support and resolving psychological issues (e.g., transitioning individuals from restrictive psychological states to resourceful ones) to fostering cognitive development, self-reliance, self-efficacy, and the competence to become the director of their own future life, intentionally shaping its trajectory.

Such a digital assistant for psychological well-being and development could become a constant companion to individuals, performing certain functions of a psychologist, coach, and wellness specialist, thereby forming a personalized virtual supportive and developmental space around each person. This technology, considering current advancements in AI systems and information-communication tools as a whole,

is likely already nearing implementation. It represents one of the evidence-based and purposeful responses of modern psychology to complex societal challenges of our time-such as large-scale armed conflicts, pandemics, information and cognitive warfare, digital maladaptation, and the transition of activities to remote formats. By ensuring flexible opportunities to enhance the effectiveness of psychological assistance, it fosters the development of resilience and personal growth, equipping individuals to navigate multifaceted crises.

References

1. Eliane M. Boucher, Nicole R. Harake, Haley E. Ward, Sarah Elizabeth Stoeckl, Junielly Vargas, Jared Minkel, Acacia C. Parks & Ran Zilca (2021). Artificially intelligent chatbots in digital mental health interventions: a review. *Expert Review of Medical Devices, 18*:sup1, 37-49, DOI: https://doi.org/10.1080/17434440.2021.2013200

2. Baek, G., Cha, C., & Han, J. H. (2025). AI chatbots for psychological health for health professionals: Scoping review. *JMIR Human Factors, 12,* e67682. https://doi.org/10.2196/67682

3. Haque, M. D. R., & Rubya, S. (2023). An overview of chatbot-based mobile mental health apps: Insights from app description and user reviews. *JMIR mHealth and uHealth, 11,* e44838. https://doi.org/10.2196/44838

4. Panok, V., Shevchenko, A., Nazar, M., Starkov, D., Meshcheriakov, D., & Shevtsov, A. (2025). Methodological principles of educational and psychological chatbot development. *Information Technologies and Learning Tools, 106*(2), 76-93. https://doi.org/10.33407/itlt.v106i2.5872

5. Khawaja, Z., & Bélisle-Pipon, J.-C. (2023). Your robot therapist is not your therapist: Understanding the role of AI-powered mental health chatbots. *Frontiers in Digital Health, 5,* Article 1278186. https://doi.org/10.3389/fdgth.2023.1278186