

*Section: Special articles***ENHANCING SUPERVISORY PRACTICE IN POSITIVE AND TRANSCULTURAL PSYCHOTHERAPY THROUGH ARTIFICIAL INTELLIGENCE****Margarita Sokolovskaya**Educational psychologist,
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Received 24.04.2024

Accepted for publication 15.06.2024

Published 08.07.2024

DOI: [10.52982/lkj253](https://doi.org/10.52982/lkj253)**Abstract**

In the digital age, the integration of Artificial Intelligence (AI) in supervisory practices in psychotherapy presents new opportunities for enhancing service quality and accessibility, especially in regions with limited supervisory resources. This paper examines the application of AI tools, such as text-based neural networks in supporting mental health professionals by assisting in case analysis, generating metaphors, and developing therapeutic techniques, thus facilitating more comprehensive and accessible supervision. The results indicated great convenience and positive effectiveness of AI in supervision. The findings suggest that AI can significantly enhance the supervisory experience by providing dynamic, context-aware support, though perceptions of effectiveness vary. The implications for future research include the need for further development of AI functionalities, ethical considerations, and integration of diverse psychotherapeutic approaches to meet the evolving professional needs of psychotherapists.

Keywords: artificial intelligence, psychotherapy supervision, text-based neural networks, positive and transcultural psychotherapy, mental health services

Introduction

In the dynamic landscape of psychotherapy, particularly within the context of Positive and Transcultural Psychotherapy, the need for innovative supervisory tools has become increasingly critical. This necessity is particularly pronounced in many parts of Russia and similar settings, where the economic demands of regular supervision are often unsustainable for professionals with modest incomes. The integration of an Artificial Intelligence (AI) tool that embodies the five-stage system of Positive and Transcultural Psychotherapy (Peseschkian, 1987) presents a cost-effective and innovative solution, addressing the financial barriers and enhancing the objectivity and confidentiality of feedback mechanisms.

Recent advancements in AI have shown promising potential to augment psychological interventions and diagnostic processes, particularly in psychotherapy (Luxton, 2014;

Mohr et al., 2017). These technologies offer not only a reduction in the cost of traditional therapeutic processes but also an increase in accessibility, making quality supervision feasible and scalable across diverse geographic and economic landscapes. These advancements in AI have demonstrated its transformative potential in psychological interventions and diagnosis, which are crucial to enhancing the effectiveness of psychotherapeutic practice. This alignment is particularly relevant to our research, as highlighted by Zhou, Zhao, and Zhang (2022), whose work underscores AI's role in democratizing access to psychotherapy, making it an essential tool for regions with economic constraints and limited supervisory resources.

In the application of AI within the realms of psychology and psychotherapy, adherence to ethical norms and confidentiality is paramount, as emphasized by research in the "Journal of Medical Internet Research", which discusses the

ethical implications of embodying AI in mental health work, emphasizing the need for thorough ethical consideration in the development and implementation of AI technologies in clinical settings (Fiske et al., 2019). This underscores the importance of incorporating ethical guidelines and privacy measures within the functionalities of AI tools for mental health specialists. Such advancements would necessitate rigorous ethical oversight to ensure confidentiality and data security, particularly when handling sensitive patient information. "AI Chatbots in Digital Mental Health" (Balcombe, 2023) highlights their potential to transform mental health care by addressing challenges such as access, stigma, and cost. The study emphasizes the need for ethical, responsible AI algorithms and explores the balance between benefits and harms, the mitigation of bias, and the integration of human values into AI systems. In an article dedicated to ethical considerations in adopting artificial intelligence for mental health diagnosis, Kasula (2023) describes key points including the need for transparency in AI algorithms, ensuring patient privacy and data security, addressing bias and fairness in AI, maintaining human oversight in decision-making, and considering the impact on the therapeutic relationship between patients and healthcare providers. The paper emphasizes the importance of ethical guidelines and regulations to guide the responsible use of AI in mental health diagnosis.

The objective of this research is to explore the integration of AI tools in supervisory practices and to evaluate their effectiveness in transcultural and Positive Psychotherapy settings. Additionally, the study aims to identify the existing needs of specialists for supervision and the limiting factors in obtaining it, thereby drawing conclusions about the potential needs that AI applications can address. By tackling accessibility and quality challenges in psychotherapy supervision, this work contributes to a more inclusive and effective psychotherapeutic landscape.

Methodology

This study employed the "SupervizAI" tool, an AI-based application, a text-based neural network which can be used for Positive and Transcultural Psychotherapy analysis as well as utilized by specialists in various approaches. The tool was deployed among a diverse group of 26 mental health professionals who work both

online and in-person and are based in different geographical locations: 19 from Russia, 4 from Turkey, 2 from Belarus, and 1 from Montenegro. The study was conducted from 01.31 to 03.20, 2024 remotely with participants individually and in groups of up to 3 people, using case studies for analysis. It included a short training in using the application, an interactive part, and a survey, after which participants were asked to fill out a questionnaire.

"SupervizAI" operates on a structured five-stage system of supervision in Positive and Transcultural Psychotherapy, mirroring key therapeutic processes:

1) Observation - The tool starts by collecting detailed case information to establish a baseline of understanding of each scenario.

2) Taking Inventory - It then progresses to asking clarifying questions or formulating requests to gather further details necessary for comprehensive case analysis.

3) Situational Encouragement - "SupervizAI" gives feedback to the therapist, providing encouragement that is crucial for maintaining therapist morale and for highlighting the professional traits of the mental health specialist.

4) Verbalization - The tool formulates hypotheses based on the collected data, helping therapists articulate potential psychological underpinnings or dynamics of the case.

5) Expansion of Goals - Finally, it suggests possible actions, including the development of treatment plans and, when necessary, the involvement of other specialists to address complex issues.

Additionally, the primary functionalities of "SupervizAI" include generating therapeutic metaphors that are specific to client scenarios, recommending psychotherapeutic literature and films, and facilitating the development of personalized therapeutic techniques. These capabilities are intended to enhance the supervisory experience by providing dynamic, context-aware support to therapists.

To evaluate the tool's effectiveness and convenience, we conducted a structured assessment using a 5-point Likert scale combined with the comprehensive questionnaire. This questionnaire was designed to capture detailed feedback on several dimensions such as ease of use and the effectiveness of the impact on the therapists' methods, as well as the supervision experience

of the participants. The collected data were systematically analyzed to extract insights into the tool's utility and identify potential areas for improvement.

Results

The analysis provided insights into two main aspects: the convenience of using AI as an online supervision tool and the effectiveness of such a tool. The data showed:

Convenience of Online Supervision Using AI:
 Mean: 4.41
 Median: 5.00

Mode: 5

The majority of responses suggest a high level of convenience, indicating that AI tools are well-received in facilitating online supervision.

Effectiveness of Online Supervision Using AI:
 Mean: 3.96
 Median: 4.00
 Mode: 5

Despite a wide range of responses, the effectiveness of AI in supervision generally receives positive ratings, pointing to its potential benefits in enhancing supervisory practices.

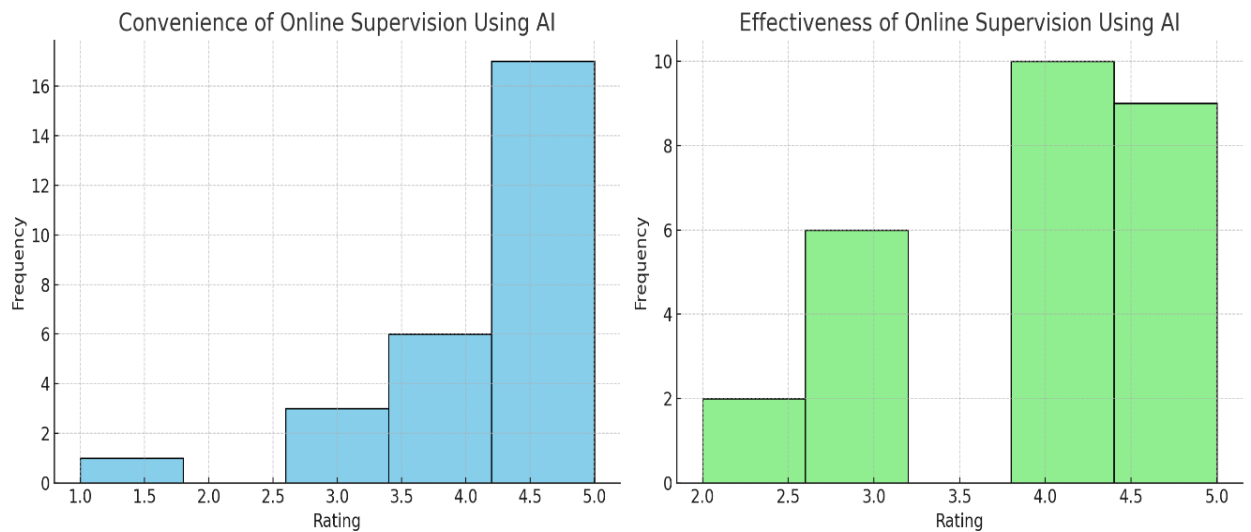


Figure 1. Histogram 1-2

As previously shown in the literature, the integration of AI into professional supervision has been met with varying levels of acceptance and effectiveness. This study's findings corroborate the notion that while AI can significantly enhance the convenience of supervision, its effectiveness is perceived differently across various professional settings (Histogram 1-2). These insights are crucial in understanding the broader impacts of technological advancements on professional practices.

Professionals' experiences of receiving supervision prior to participating in the study were also explored to understand their needs and limitations. In the dataset, several common limitations were identified that impact the frequency and quality of supervision received by professionals:

High Cost of Supervision: Mentioned by 17 respondents, this is the most frequently cited limitation, indicating that financial barriers are a

significant concern for many professionals seeking supervision.

More Requests than Opportunities: This limitation, highlighted by 13 respondents, reflects a discrepancy between the demand for supervision and the availability of opportunities, suggesting a need for increased supervisory capacity.

Lack of Time for Supervision: As mentioned by 7 respondents, time constraints are a notable barrier, indicating that the busy schedules of professionals often prevent them from engaging in supervision.

Limited Access to Supervision: Cited by 4 respondents, this points to geographical or logistical barriers that restrict access to supervisory resources.

Discomfort or Distrust Towards Supervisors: Also noted by 4 respondents, this psychological barrier can significantly affect the willingness to engage in and the effectiveness of supervision.

Low Need or Demand for Supervision: Identified by 3 respondents, this suggests a perception that supervision is not necessary, which could reflect a lack of awareness about the benefits of supervision.

No Limitations: Interestingly, 3 respondents reported no limitations, which could indicate that some professionals are well-served or possibly unaware of potential improvements in supervision practices.

The percentages for the frequency of professional supervision as reported by respondents:

Often: 38.5%

Sometimes: 50%

Rarely: 11.5%

This reflects a distribution in which regular but not constant engagement with professional supervision is most common among the respondents.

Discussion

Integrating AI into psychotherapy supervision introduces several ethical considerations. Ensuring patient confidentiality, data security and adherence to ethical norms are critical challenges. AI tools must be developed with robust ethical frameworks to safeguard sensitive patient information. The recent studies mentioned in this article highlight the need for ethical guidelines in the development and implementation of AI technologies in clinical settings.

The study's findings suggest that AI tools such as "SupervizAI" are well-received for their convenience and potential to enhance supervisory practices. The data showed high convenience (Mean: 4.41) and positive effectiveness (Mean: 3.96). These results indicate that AI can significantly improve the supervisory experience by providing dynamic, context-aware support to therapists. However, perceptions of effectiveness vary, highlighting the need for further refinement of AI functionalities.

The study is subject to several limitations that could impact the outcomes. The sample size, while diverse in geography, may not fully represent the broader population of mental health professionals. The use of self-reported measures for evaluating the effectiveness and convenience of the AI tool may introduce subjectivity into the data. Additionally, the research primarily focused on the integration of

AI in supervisory practices, not exploring the tool's application in direct therapeutic interventions with clients.

Conclusions

AI tools, such as "SupervizAI", hold significant potential to revolutionize supervisory practices in psychotherapy. By addressing the dual challenges of accessibility and quality, these tools can contribute to a more inclusive and effective psychotherapeutic landscape, addressing the evolving needs of psychotherapists including the demand for cost-effective, accessible, and high-quality supervision. Recommendations for addressing these needs involve further development of AI technologies to support personalized care, enhance non-verbal communication analysis, and ensure robust data security measures. Expanding the database to include a diverse array of psychotherapeutic approaches will offer a multidimensional perspective essential for complex case analysis.

In developing an enhanced theoretical framework for the "SupervizAI" tool within the realm of Positive and Transcultural Psychotherapy, it is crucial to interweave existing scholarly discourse with proposed innovations:

1. Incorporating Positive and Transcultural Psychotherapy theoretical data into AI functionality enables the system to align closely with established therapeutic modalities, thus broadening the tool's applicability and depth. Extending the database to encapsulate a diverse array of psychotherapeutic approaches and schools will offer a multidimensional perspective, essential for complex case analysis. This integration facilitates a tailored approach to each case, aligning with studies emphasizing personalized care in mental health technologies.
2. Adding capabilities for interpreting images and drawing techniques will open new avenues for non-verbal communication analysis, echoing current research on the importance of creative expression in therapy and AI's role in interpreting such data. The creation of a closed platform for professionals would address the gap in secure communication channels, highlighted in studies exploring the

protection of sensitive health information within digital environments.

3. Moreover, the development of robust confidentiality measures is in direct response to the increasing emphasis on privacy and ethical considerations in the use of AI in healthcare, as addressed in recent publications on AI ethics and data protection. Overcoming restrictions on the presentation of violence in cases aligns with the ongoing discourse on safeguarding against potential biases and ensuring comprehensive case reviews, especially in light of AI's expanding role in risk assessment and management.

In future developments, the application of AI in psychotherapy supervision could extend to more sophisticated analyses involving larger datasets, which would be systematically recorded and potentially shared in a secure, anonymized manner to further research and clinical practice.

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Declarations

Study Limitations

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Acknowledgements

We wish to express our gratitude to the mental health professionals who participated in this study and provided valuable feedback on the "SupervizAI" tool.

Funding Source

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. Participation in this study is voluntary and free.

Competing Interests

The authors declare that there are no competing interests regarding the publication of this paper.

Human and Animal Related Study

As this study involved human participants, all participants gave informed consent to the use and processing of the received data and agreed to use the application based on the ethical principles and policy of the text neural network.