USING ARTIFICIAL INTELLIGENCE TO AUTOMATE PSYCHOLOGICAL ASSISTANCE: FROM THE CLASSIFICATION OF PERSONALITY CHARACTERISTICS BASED ON PSYCHOANALYTIC TYPOLOGY TO AUDIO MEDITATIONS AND VIRTUAL REALITY

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Abstract

The study "Using Artificial Intelligence to Automate Psychological Assistance," conducted within the PersonaMatrix project in 2021–2024, aimed to develop innovative methods of psychological support utilizing modern technologies. The objective of the research was to create a comprehensive system that combines automated classification of personality characteristics based on psychoanalytic theory with automated therapy methods, the development of automated notifications for psychologists and clients about test results and psychological information on personality traits, as well as audio meditations for individuals with four basic character types. The methodology included training AI agents on proprietary materials to analyze psychological profiles and create personalized therapeutic programs. These programs can be integrated with virtual reality technologies. The results demonstrate a significant increase in the effectiveness of psychological assistance using the proposed system, supported by clinical trials. The study opens new prospects in the field of automated psychotherapy and personalized medicine.

Keywords: Artificial Intelligence, Virtual Reality, Psychoanalysis, Automated Psychotherapy, PersonaMatrix

Introduction

The modern development of artificial intelligence (AI) and virtual reality (VR) technologies opens up new possibilities for improving methods of psychological assistance. Initiated in Ukraine, the PersonaMatrix project aims to integrate these technologies with traditional psychoanalytic approaches to create an effective system of automated psychological support.[1]

The relevance of this study is driven by the growing need for accessible and effective methods of psychological assistance, especially under conditions of global crises and limited healthcare resources. The use of AI and VR can significantly expand the capabilities for providing psychological support, making it more accessible and personalized.

The purpose of this study is to develop and validate a comprehensive system of automated psychological assistance that includes:

1. Classification of personality characteristics based on psychoanalytic theory using AI.

2. Development of personalized therapeutic programs, including audio meditations.

3. Creation of AI agents trained on proprietary materials to interact with clients as AI psychoanalysts, family therapists, archetypal psychoanalysts, and advisors for parents of children with special needs.

4. Creation of AI agents, trained on proprietary materials, that model interactions of individuals with different character types.

Literature Review

Psychoanalytic theory of character types, initiated by Sigmund Freud and developed by his followers, remains influential in modern psychology. Nancy McWilliams, in her work Psychoanalytic Diagnosis: Understanding Personality Structure in the Clinical Process, provides a detailed description of various character types formed due to specific early developmental conflicts.[1]

Research on AI applications in psychology demonstrates the potential for automating the diagnosis and treatment of mental disorders. For example, Luxton et al. (2020) show the effectiveness of using chatbots for initial psychological support.[2]

Virtual reality is increasingly applied in psychotherapy, especially for treating phobias and post-traumatic stress disorder. The study by Maples-Keller et al. (2019) demonstrates the high effectiveness of VR therapy compared to traditional methods.[3]

Integrating psychoanalytic theory with modern technologies remains underexplored, highlighting the novelty and relevance of this research.

Methodology

The study was conducted in three stages:

1. Development of the AI Algorithm for Character Type Classification:

- Creation of a database of psychological profiles based on psychoanalytic theory.
- Development and training of a neural network to analyze textual data and determine character type.
- Validation of the algorithm on a sample of 1,000 participants.

2. Creation of Personalized Therapeutic Programs:

- Development of a database of audio meditations and therapeutic exercises for each character type.
- Creation of an algorithm for the automatic selection of therapeutic programs based on the determined character type.
- Creation of AI agents providing real-time consultative support.

3. Creation of AI Agents That Model Interaction Based on Psychoanalytic Classification:

- Schizoid character type personality
- Depressive character type personality
- Narcissistic character type personality
- Obsessive-compulsive character type personality

- Other five character types (according to psychoanalytic classification) can be trained as needed for testing in a multi-agent AI environment.

Results

The character type classification algorithm showed 87% accuracy compared to expert psychoanalysts 'assessments. The highest accuracy was achieved for schizoid (92%) and narcissistic (90%) character types.

Key basic psychic conflicts in individuals with various character types were identified, manifested in stable behavioral strategies and specific phrases derived from these strategies. A small selection of such "typological phrases" is provided in the author's book "Types of Characters and Elements" in Chapters 2 and 3. Based on these phrases, the test "Persona. What Is My Character Type?" was developed. A U.S. Copyright Office registration certificate (No. TXu 2-408-293, dated 12/23/2023) confirms the authorship. From 2022 to 2024, this questionnaire was tested on 1,000 individuals, mainly Ukrainian-speaking citizens in Ukraine and abroad. The sample did not include representatives of other nationalities. It can be hypothesized that the basic personality conflicts are similar across nations, though ethnopsychological differences may exist. Accordingly, the questionnaire for representatives of other nations may be adapted to reflect their national manifestations of psychic conflicts.

Statistical analysis of the testing data showed that the highest frequency of manifestations was among individuals with schizoid, narcissistic, depressive, and obsessive-compulsive character types. They accounted for 87% of all respondents, and these mental structures can be considered primary.

Other character types—histrionic, masochistic, paranoid, and dissociative (multiple)—are significantly less frequent, accounting for 13%. These can be considered secondary, or derivative, mental structures that, according to psychoanalytic theory, form at later stages of personality development.

It is also possible to analyze respondents by the indicators of character maturity and antisocial tendencies.

The distribution was as follows:

- Mature respondents: 58%
- Antisocial: 3%
- Immature but social: 3%
- Immature and antisocial: 0.6%

Based on the psychological testing of character types, personalized therapeutic programs and audio meditations were developed for each type, demonstrating a 35% increase in therapy effectiveness compared to standard approaches.

Retrospective test results (repeated after 3–6 months) showed:

- If clients received effective psychotherapeutic support, the follow-up tests indicated a 15–20% decrease in derivative psycho-typological structures (dissociative, masochistic, and histrionic indicators). There was also a 10–20% increase in indicators of psychological maturity and a 5–15% decrease in antisocial tendencies.

- If clients did not receive psychological support, the follow-up tests did not show significant changes in character indicators (around 5%, within the margin of

error). In some cases, there was a 10–20% decrease in psychological maturity indicators along with a 10–15% decrease in antisocial tendencies, which could be due to increased stress in the internal and external environments, illness, or experiences of loss.

Discussion

These character structures can be identified using the "Persona. What Is My Character Type?" test without the need for detailed clinical interviews or prolonged psychotherapeutic observation. This makes it possible to identify a psychological conflict characteristic of a secondary character type tens of times faster and to formulate a psychotherapeutic strategy for working with the client. Thus, the effect of psychotherapeutic support can be accelerated. Otherwise, knowing the complexity of the client's character, a psychotherapist may refuse to continue treatment and refer the client to a specialized professional according to the psychological features identified by the test.

The study's results confirm the effectiveness of integrating psychoanalytic theory with modern AI technologies. The high accuracy of the character type classification algorithm indicates the possibility of automating initial psychological diagnostics, which can significantly improve access to psychological assistance.

Personalizing therapeutic programs based on the identified character type demonstrates the potential to enhance psychotherapy effectiveness. This is especially important given limited healthcare resources.

Conclusions

This study demonstrates the high potential of integrating psychoanalytic theory with AI technologies to automate and increase the effectiveness of psychological assistance. The developed system can significantly expand the availability of high-quality psychotherapeutic support.

Future research should focus on expanding the database of psychological profiles, improving AI algorithms, modeling multi-agent AI environments for different psycho-typological structures, and developing technologies to integrate audio meditations with VR scenarios for various psychological issues.

The PersonaMatrix project opens new prospects for personalized psychotherapy and may serve as a foundation for developing innovative methods of treating mental disorders.

REFERENCES

1. McWilliams, N. (2011). *Psychoanalytic diagnosis: Understanding personality structure in the clinical process.* Guilford Press.
2. Luxton, D. D., Pruitt, L. D., & Osenbach, J. E. (2020). Best practices for remote psychological assessment via telehealth technologies. *Professional Psychology: Research and Practice, 51*(1), 27–35.
3. Maples-Keller, J. L., Bunnell, B. E., Kim, S. J., & Rothbaum, B. O. (2019). The use of virtual reality technology in the treatment of anxiety and other psychiatric disorders. *Harvard Review of Psychiatry, 25*(3), 103–113.
4. Drobakha, A. (2023). *Types of characters and elements: Meditations and exercises.* [ASIN: B0DKBD989Q]
5. Drobakha, A. (2024). *The matrix of humanity: What is the structure of the field of the collective unconscious?* [ASIN: B0DMV826W8]
6. PersonaMatrix. (2024). *Automated psychological assistance project. http://www.testpersona.com*