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THE IMPACT OF USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON HUMAN PSYCHOLOGICAL STATE AND COGNITIVE PROCESSES

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Abstract

In recent years, the widespread adoption of artificial intelligence (AI) technologies in everyday life has necessitated an in-depth examination of their impact on human psychology. This article analyzes the effects of using AI-based systems on individuals’ psychological state, cognitive processes, and emotional stability. The study employs survey methods and statistical analysis techniques. The findings reveal that continuous use of artificial intelligence technologies has a significant influence on human decision-making processes and the ability to maintain attention and concentration.

Keywords

artificial intelligence, human psychology, cognitive processes, digital technologies, psychological impact.

Introduction. The rapid development of digital technologies has led to the integration of artificial intelligence (AI) into nearly all spheres of societal life. Today, AI-based systems are widely applied in education, healthcare, information security, service industries, and everyday domestic activities. While these technologies significantly facilitate human activities, their impact on psychological well-being has not yet been sufficiently examined from a scientific perspective.

The use of artificial intelligence may influence human cognitive processes, including attention, memory, decision-making, and the ability for independent thinking. Some studies emphasize that AI optimizes human performance and efficiency, whereas others indicate that excessive reliance on technology may lead to psychological dependence and cognitive passivity [1,3].

The purpose of this article is to empirically and theoretically analyze the impact of using artificial intelligence technologies on human psychology.

Methods. In this study, a mixed-methods research methodology was applied to examine the impact of using artificial intelligence (AI) technologies on human psychology. This approach integrates quantitative and qualitative research methods, enabling a comprehensive and in-depth analysis of the research problem. The study was conducted using a cross-sectional research design, in which data were collected within a specific time frame to analyze the relationship between respondents’ AI usage patterns and their psychological indicators. This design is considered appropriate for identifying current psychological conditions and assessing general trends.

A total of 120 respondents participated in the study. Participants were selected using a random sampling method. The age range of respondents was 18 to 45 years, including students, employed individuals, and self-employed participants. This diverse sample allowed for a comparative analysis of the psychological effects of AI usage across different social groups.

Respondents were categorized into two groups based on their level of AI technology usage:

- Active users (individuals who use AI technologies several times a day);
- Passive users (individuals who use AI technologies infrequently or episodically).

Data were collected using the following primary methods:

Survey Method. The main data were gathered through a specially designed anonymous questionnaire. The survey items covered the following psychological indicators:

- level of attention and concentration;
- stress and emotional tension;
- ability to make independent decisions;
- indicators of psychological dependence on technology;
- frequency and purpose of AI technology usage [2,3].

Responses were measured using a Likert scale (from 1 to 5), which allowed subjective perceptions to be transformed into quantitative data.

Qualitative Data Analysis. At the end of the questionnaire, open-ended questions were included to obtain respondents' personal views on the psychological impact of AI technologies on their daily lives. These responses were analyzed using the content analysis method.

The collected data were analyzed using the following techniques:

- Descriptive statistics to determine percentages, mean values, and distributions;
- Comparative analysis to identify differences between active and passive user groups;
- Correlation analysis to assess the relationship between the level of AI usage and psychological indicators.

The results were summarized and presented using tables and diagrams [4,5].

Results. The study findings revealed the following:

- 68% of respondents reported regular use of artificial intelligence technologies in their daily activities.
- Among active users of artificial intelligence, 54% demonstrated a decline in attention and concentration abilities.
- 47% of respondents indicated difficulties in independent decision-making due to reliance on technology.
- At the same time, 62% of participants emphasized that artificial intelligence increases work efficiency and helps save time [6,7].

These results confirm that artificial intelligence has a dual impact on human psychology, encompassing both positive and negative effects.

Conclusion

Based on the results of the study, the use of artificial intelligence technologies has a significant impact on human psychology. This impact includes not only positive aspects but also potential negative consequences. Therefore, it is essential to ensure psychological safety and take the human factor into account when implementing and using artificial intelligence technologies.

Future research is recommended to further investigate the psychological effects of artificial intelligence across different age groups and types of professional activities.

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