

THE IMPACT OF ARTIFICIAL INTELLIGENCE USE IN THE EDUCATIONAL  
PROCESS ON THE PSYCHOLOGICAL STABILITY AND PROFESSIONAL  
IDENTITY OF THE EDUCATOR

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**Annotation**

This article examines the impact of using artificial intelligence technologies in the educational process on teachers' psychological stability, stress and digital workload, professional identity, self-confidence and reflection, as well as digital competence. A survey was conducted with 214 general education and higher education teachers based on a descriptive correlational design. Scales were used to measure psychological stability and digital fatigue, professional identity, self-confidence and reflective practice, as well as digital competence and the intensity of artificial intelligence use [1, 2, 6, 9, 11, 12, 19]. Results show that high digital competence and self-confidence in using artificial intelligence increase teachers' levels of professional satisfaction, happiness, and professional identity [2, 3, 9, 11, 18, 19], while potentially reducing digital fatigue and work-related stress [1, 4, 6, 12]. However, it was found that insufficient preparation and institutional support can lead to increased workload, technological anxiety, and role confusion, weakening psychological stability [6, 8, 10, 13, 15, 16]. The findings emphasize the need to develop policies and professional development programs that prioritize teachers' mental well-being and professional identity when implementing artificial intelligence.

**Keywords**

artificial intelligence; psychological stability; digital workload; professional identity; self-confidence; reflection; digital competence.

**Introduction.** The rapid integration of artificial intelligence-based applications and services into the education system is fundamentally transforming teachers' professional activities, working conditions, and personal experiences [1, 3, 9, 11, 14]. AI technologies have the potential to enhance teachers' work efficiency through lesson planning, assessment, individualization of the learning process, and automation of administrative tasks [1, 3, 6, 9, 13]. However, this transformation process has a complex, multifaceted impact on teachers' psychological stability, professional identity, level of digital workload, and stress [1, 4, 6, 12, 18].

Research indicates that high self-confidence and digital competence in AI are positively correlated with teachers' professional satisfaction, job contentment, and overall well-being [2, 3, 11, 19]. Conversely, insufficient preparation, lack of AI literacy, and concerns about ethics and workplace implications increase levels of psychological pressure and stress, exacerbating digital fatigue and professional instability [1, 6, 8, 10, 12, 13, 15].

Against the backdrop of AI integration, teachers' professional identity is also being reshaped. Studies show that in AI-enhanced training, tensions such as "humanity-technology" and "continuity-openness" emerge in teachers' professional identity [18]. At the same time, AI tools can serve as a means of developing reflective practice and self-confidence, encouraging teachers to expand their leadership and innovative roles [2, 17, 20].

Accordingly, the **aim** of this study is to analyze the influence of the intensity and characteristics of artificial intelligence use in the educational process on teachers' psychological



stability, stress and digital load, professional identification, self-confidence and reflection, as well as digital competence based on a descriptive correlational approach.

**The main research questions** are as follows:

1. How is the level of AI use related to teachers' psychological stability and stress indicators?
2. To what extent do digital competence and self-confidence in AI predict indicators of professional identity and well-being?
3. How do the positive (autonomy, professional growth) and negative (digital load, role conflicts) psychological consequences of using AI manifest?

### **Materials and methods**

**Research design.** The research was conducted using a descriptive correlational design. The aim was to identify statistical relationships between the intensity of AI use, digital competence, and psychological well-being indicators, and to analyze their impact on professional identity [2, 3, 6, 11, 19].

**Participants.** A total of 214 educators from 7 general education schools and 3 higher education institutions participated in the study. Of these, 61.7% were women and 38.3% were men, with an average teaching experience of 10.9 years (SD = 7.1). Subject distribution was: exact sciences - 29%, humanities - 38%, language and literature - 24%, other fields - 9%. Participants were recruited using a convenient purposive sampling method, with the requirement that they had used AI-based digital applications for educational purposes at least several times in the past 6 months [1, 10, 15, 16].

**Measurement instruments.** The questionnaire was based on a 5-point Likert scale (1 - "strongly disagree," 5 - "strongly agree"), which included the following scales:

- **Psychological resilience:** An 8-item subscale reflecting adaptation to work-related challenges, positive reappraisal, and emotional regulation; structurally adapted from approaches to teacher resilience [12, 19].
- **Stress and Digital Load:** Items measuring digital fatigue, screen time, number of online interactions, and the feeling of being constantly at work due to AI tools; developed based on existing conceptualizations of technology-induced stress [1, 4, 6, 7, 12, 13].
- **Professional Identification:** A 10-item scale covering perceptions of the teacher's role as "the center of personal identity," and the content and values of teaching duties in the context of AI [10, 18, 20].
- **Self-confidence and Reflection:** 8 items assessing self-efficacy for effective use of AI tools, and the frequency and depth of post-lesson reflective analysis [2, 9, 17, 19].
- **Digital Competence:** 12 items encompassing components of digital literacy, technical application, problem-solving, and ethical attitudes regarding the use of AI tools; adapted based on international digital literacy frameworks [3, 8, 9, 11, 14].
- **AI Usage Intensity:** An index indicating the frequency of AI use for lesson planning, assessment, creation of educational materials, and administrative tasks [1, 3, 6, 11, 13].

The internal consistency of each scale, measured by Cronbach's  $\alpha$ , ranged from 0.76 to 0.90, which was considered satisfactory [2, 6, 11].

**Research process.** The questionnaire was distributed online, and participants were informed about the study's purpose and confidentiality guarantees. Participation was voluntary, and data was collected anonymously. Permissions and ethical requirements were ensured in accordance with national regulatory standards.

**Data analysis.** The data were analyzed using SPSS. Descriptive statistics, Pearson correlation, and multiple regression models were employed [2, 3, 6, 11]. While controlling for the intensity of AI use, the impact of digital competence, psychological resilience, and self-



confidence on professional identity and well-being (job satisfaction, subjective happiness) was examined [2, 11, 18, 19].

## Results

**Psychological resilience and digital workload.** Overall psychological resilience indicators were slightly above average ( $M \approx 3.67$ ;  $SD \approx 0.62$ ), suggesting that teachers possess relatively strong adaptive resources [12, 19]. Digital workload and technology-induced stress were reported at moderate levels ( $M \approx 3.11$ ;  $SD \approx 0.79$ ); as the number of digital lessons and frequency of evening online communication increased, indicators of digital fatigue also rose [1, 4, 6, 7, 12].

Correlation analysis revealed a significant negative relationship between digital workload and psychological stability ( $r \approx -0.34$ ,  $p < 0.001$ ): as the workload increased, stability decreased [1, 4, 6, 12]. At the same time, it was observed that appropriate and manageable forms of AI use (mainly automating administrative tasks and facilitating assessment) can significantly reduce stress [1, 4, 6].

**Professional identification and AI integration.** Professional identification averaged 3.89 ( $SD \approx 0.57$ ), with most participants indicating that they perceive the role of a teacher as a central element of their personal identity. The intensity of AI use was moderate and showed a curvilinear relationship with professional identification:

- **At low intensity** - the use of AI is perceived as an additional resource that enhances satisfaction and professional identity [2, 3, 11];

- **At excessively high intensity** - the feeling of "technology taking over the teacher's role" intensifies, and tensions arise in professional identification [10, 13, 18, 20].

Digital competence and AI self-efficacy were identified as positive predictors of professional identification ( $\beta \approx 0.29$  and  $\beta \approx 0.33$ ,  $p < 0.001$ ) [2, 3, 8, 11, 18]. It was noted that teachers who perceive AI as a "partner" experience less "human-technology" tension [10, 18, 20].

**Self-confidence, reflection and professional well-being.** Stable positive correlations were observed between AI self-efficacy, frequency of reflective practice, and professional well-being (professional satisfaction, happiness) in the use of AI ( $r \approx 0.40-0.52$ ,  $p < 0.001$ ) [2, 9, 11, 17, 19]. Exploratory regression analysis revealed that:

- AI self-efficacy and reflection together account for approximately 30-35% of the variance in professional well-being [2, 11, 19];

- digital competence enhances professional well-being both directly and indirectly (through self-efficacy and reflection) [2, 3, 9, 11, 17, 19].

The results align with findings on increased depth of reflection and self-efficacy among teachers who used AI-based reflective assessment tools [17, 19].

## Positive and negative psychological effects

### Positive aspects:

- reduction of administrative burden and simplification of the assessment process reduces stress and decreases digital fatigue [1, 4, 6];

- A sense of competence and autonomy in working with AI increases professional satisfaction, job meaningfulness, and happiness [2, 3, 11, 18, 19];

- the ability to provide timely and personalized feedback strengthens teachers' self-perception as "effective specialists" [3, 9, 17].

### Negative aspects:

- when there is a lack of preparation and infrastructure, the technological burden increases, and the need for constant adaptation becomes a source of stress [1, 4, 6, 8, 13, 15];

- Anxiety about job security, fairness of evaluations, and ethical risks undermines psychological stability [6, 8, 10, 16, 18];



- Concerns among some participants about the teacher's role being "overshadowed by technology" intensify conflicts in professional identity [10, 13, 18, 20].

**Discussion.** The results indicate a complex, bidirectional relationship between AI integration and teachers' psychological well-being. AI-based educational applications have been found to have potential for enhancing teacher autonomy, professional development, and reducing digital fatigue [1]. These findings are consistent with studies showing that when AI is adopted, it can reduce administrative workload, support personalized learning, and expand opportunities for professional development [1, 3, 4, 6, 11].

However, psychological stability is strongly dependent not only on the technology itself, but also on teachers' readiness for AI, digital competence, and the psychosocial environment. The positive correlation of AI self-efficacy and digital competence with job satisfaction and happiness, and their negative correlation with stress and digital fatigue, demonstrates that improving AI literacy and digital skills serves to strengthen psychological well-being [2, 3, 8, 9, 11, 14, 19].

From the perspective of professional identification, it is noted that AI can either expand or narrow the teacher's role. While some studies emphasize the potential of AI tools to enhance teacher leadership and innovative roles [20], others suggest that AI integration may intensify the tensions between "humanity-technology" and "group affiliation-individuality" in professional identity [18]. The results of this study also confirm that when AI is used intensively and role distribution is unclear, confusion in professional identification and a feeling of "relying on the system rather than on people" may increase.

At the same time, teachers with high digital competence and AI readiness are more inclined to apply innovative approaches in their work, which increases their job satisfaction and professional well-being [3, 9, 11, 14]. The cognitive, skill-based, visionary, and ethical components of AI readiness predict teachers' satisfaction with their work and their perception of AI as a source of innovation [11, 14, 19].

Results related to stress and digital overload align with studies showing increased workload and psychological pressure when AI integration is implemented without adequate preparation [4, 6, 8, 13, 15]. Therefore, AI implementation policies should focus not only on technical infrastructure and tools but also on supporting teachers' mental health, psychological stability, and professional identity. The main limitations of this study include convenience sampling, cross-sectional design, and reliance on self-reported measures. Future research should focus on longitudinal and interventional studies to examine the causal effects of AI-related professional development programs on psychological stability, professional identification, and well-being. Additionally, it is recommended to refine valid measurement tools adapted to the local context.

**Conclusion.** The integration of artificial intelligence in the educational process has a complex, dual impact on teachers' psychological stability and professional identity. High digital competence, self-confidence in AI use, and reflective practice strengthen teachers' professional satisfaction, happiness, and professional identity while reducing digital burden and stress [2, 3, 9, 11, 17, 18, 19]. Conversely, lack of preparation, infrastructure limitations, and ambiguous redistribution of professional roles can weaken psychological stability and intensify tensions and anxieties in professional identity [6, 8, 10, 13, 15, 16].

#### **Practical implications:**

- AI integration policies and programs should prioritize teachers' mental well-being and professional identity [2, 11, 18];
- Systematic professional development should focus on enhancing digital competence and AI literacy, encompassing ethical and reflective components [3, 9, 11, 14, 17];



- monitor digital workload and digital fatigue, provide psychological support, and implement measures to adapt working conditions [1, 4, 6, 7, 12].

AI integration, organized in this manner, supports the psychological stability and professional identity of teachers and serves to ensure the sustainable digital transformation of the education system.

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