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From Resistance to Resilience Psychological Factors Influencing Teachers' Adoption of AI Tools

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ABSTRACT

Background. Rapid advancements in artificial intelligence (AI) technologies are transforming educational environments and reshaping teaching practices worldwide. Educational institutions increasingly encourage teachers to integrate AI-powered tools such as generative systems, intelligent tutoring platforms, and automated feedback technologies into classroom activities. Despite the potential benefits of AI for improving instructional efficiency and personalized learning, many teachers initially demonstrate hesitation or resistance toward adopting these technologies. Psychological factors such as technological self-efficacy, perceived usefulness, technological anxiety, and professional identity concerns play a critical role in shaping teachers' responses to AI-driven educational innovation.
Purpose. This study aims to examine the psychological factors influencing teachers' adoption of AI tools and to explore how educators transition from resistance toward resilience when interacting with emerging educational technologies.
Method. A mixed-methods research design was employed involving 120 in-service teachers from various subject areas. Data were collected through structured questionnaires measuring psychological constructs related to AI adoption and through semi-structured interviews exploring teachers' experiences with AI tools. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data were examined through thematic analysis.
Results. The findings indicate that technological self-efficacy, perceived usefulness of AI tools, and psychological resilience significantly influence teachers' intention to adopt AI technologies. Initial resistance tends to decrease as teachers gain practical experience, receive institutional support, and develop greater confidence in using AI tools.
Conclusion. Psychological readiness is a key determinant of successful AI integration in education. Strengthening teachers' self-efficacy, reducing technological anxiety, and fostering resilience through training and institutional support can facilitate more effective adoption of AI-driven teaching practices.

KEYWORDS

Artificial Intelligence In Education, Teacher Adoption, Psychological Resilience

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INTRODUCTION

Rapid advancements in artificial intelligence (AI) technologies have begun to transform educational environments across the world. AI-powered tools such as intelligent tutoring systems, automated feedback platforms, generative content systems, and adaptive learning environments increasingly influence how teaching and

technologies into classrooms in order to improve instructional efficiency (Tang, 2023; Ungar, 2024), personalize learning experiences, and support data-driven educational decision making. Teachers are therefore expected to adapt their instructional practices to accommodate emerging AI tools that reshape traditional pedagogical structures.

Educational transformation driven by AI technologies requires teachers to develop not only technical skills but also psychological readiness to adopt and integrate these tools into their professional practices (Balasubramanian, 2024; Lavretsky, 2022). Successful implementation of educational innovations often depends on teachers' beliefs, attitudes, motivation, and perceived self-efficacy. Psychological responses to technological change may vary widely among educators, ranging from enthusiasm and curiosity to anxiety and resistance. Understanding these psychological responses becomes increasingly important as educational systems move toward AI-supported learning environments.

The adoption of AI technologies in education is not merely a technical or institutional issue but also a human-centered process influenced by teachers' cognitive and emotional responses. Teachers serve as key agents in implementing technological innovation within classrooms, and their willingness to adopt AI tools directly affects the effectiveness of such technologies in educational settings (Pieczykolan, 2023; Yoo, 2022). Psychological resilience, openness to innovation, and adaptive professional identity may therefore play important roles in shaping how teachers respond to the introduction of AI in education. Exploration of these psychological factors provides valuable insights into how teachers transition from initial resistance toward constructive engagement with AI-supported teaching tools.

Despite increasing interest in integrating artificial intelligence into education, many teachers demonstrate hesitation or resistance toward adopting AI-based technologies in their instructional practices (Khan, 2024; Savari, 2024). Concerns regarding job displacement, ethical implications, data privacy, and the perceived complexity of AI systems may influence teachers' attitudes toward technological adoption. Such concerns may lead to reluctance in experimenting with AI tools, even when institutional policies encourage technological innovation in teaching practices.

Educational institutions often focus on providing technical training or digital infrastructure without sufficiently addressing the psychological dimensions of technology adoption (Bai, 2025; Lullau, 2023). Teachers may receive workshops on how to use AI tools without opportunities to reflect on their beliefs, concerns, and professional identities in relation to emerging technologies. Limited attention to psychological readiness may result in superficial or inconsistent adoption of AI tools in classroom environments.

Variation in teachers' psychological responses toward AI technologies further complicates the implementation of technology-driven educational reforms. Some educators embrace AI tools as opportunities for professional growth and instructional innovation, while others perceive these technologies as threats to pedagogical autonomy or professional expertise (Burgher, 2024; Okilanda, 2024). Differences in technological self-efficacy, professional identity, perceived usefulness, and emotional responses toward AI systems may significantly influence teachers' adoption behavior. Investigation into these psychological dimensions is necessary to understand the complex factors shaping teachers' engagement with AI in education.

The primary objective of this study is to examine the psychological factors that influence teachers' adoption of artificial intelligence tools in educational settings (Montine, 2022; Nelson, 2022). The research seeks to explore how teachers' attitudes, beliefs, and emotional responses toward AI technologies shape their willingness to integrate such tools into their instructional

practices. Examination of these psychological dynamics aims to provide a deeper understanding of the human dimensions of educational technology adoption.

Investigation within this study also focuses on identifying specific psychological constructs that contribute to teachers' transition from resistance to resilience when interacting with AI technologies. Constructs such as technological self-efficacy (Ang, 2022; Etesami, 2024), perceived usefulness, professional identity adaptation, and innovation readiness are explored to understand how teachers navigate technological change within their professional environments. Analysis of these factors may reveal patterns that explain why some educators successfully adapt to AI-supported teaching practices while others remain hesitant.

Development of a conceptual framework explaining teachers' psychological adaptation to AI technologies represents another important objective of the study (Pinedo, 2022; Stitelmann, 2024). The research aims to propose a model illustrating how psychological resilience, institutional support, and technological competence interact to influence teachers' adoption of AI tools. Findings from this study may contribute to the design of teacher professional development programs that address both technological competence and psychological readiness for AI integration.

Existing research on artificial intelligence in education has primarily focused on technological capabilities, algorithmic efficiency, and learning analytics systems rather than the psychological experiences of teachers who interact with these technologies (He, 2022; Mesquita, 2023). Many studies examine how AI systems can support personalized learning or automate administrative tasks, yet fewer investigations explore how educators perceive and respond to the integration of AI tools within their professional practices. Limited attention to the human factors associated with technological adoption creates an important gap in the literature.

Studies examining technology adoption in education often rely on theoretical models such as the Technology Acceptance Model (TAM) or the Unified Theory of Acceptance and Use of Technology (UTAUT). These frameworks provide valuable insights into perceived usefulness and ease of use but may not fully capture the complex psychological processes associated with adopting emerging technologies such as artificial intelligence (Ayub, 2023; Lopez, 2024). Emotional responses, professional identity concerns, and ethical reflections surrounding AI technologies may extend beyond the explanatory scope of traditional technology adoption models.

Research exploring teachers' emotional and psychological responses to AI technologies remains relatively limited and fragmented (Finegood, 2022; Helman, 2022). Existing studies tend to focus on isolated factors such as technological anxiety or digital competence without examining the broader process through which teachers move from resistance to resilience in adapting to AI-driven educational environments. Insufficient integration of psychological resilience theories with technology adoption research highlights the need for a more comprehensive analytical framework that captures the dynamic nature of teachers' adaptation to AI technologies.

The present study introduces a novel perspective by conceptualizing teachers' adoption of artificial intelligence tools as a psychological transition from resistance to resilience. Emphasis on psychological adaptation provides a deeper understanding of the emotional, cognitive, and professional factors that shape teachers' responses to emerging educational technologies. This perspective moves beyond purely technical or institutional explanations of technology adoption and instead highlights the importance of teachers' internal processes when confronting technological change.

A distinctive contribution of this research lies in the integration of psychological resilience theory with educational technology adoption frameworks. The study proposes that teachers' ability to adapt to AI technologies is influenced not only by perceived usefulness or technical competence

but also by psychological resilience, professional identity flexibility, and emotional regulation when facing technological disruption. Such integration offers a more holistic explanation of how educators respond to AI-driven transformations in teaching practice.

RESEARCH METHODOLOGY

This study employed a mixed-methods research design to investigate the psychological factors influencing teachers' adoption of artificial intelligence (AI) tools in educational contexts. The design integrates quantitative and qualitative approaches in order to capture both measurable patterns of technology adoption and deeper insights into teachers' psychological experiences when interacting with AI technologies (Nunez, 2025; Thorvaldsen, 2024). Quantitative analysis was used to examine relationships among psychological variables such as technological self-efficacy, perceived usefulness, innovation readiness, and psychological resilience, while qualitative exploration focused on teachers' perceptions, concerns, and adaptive responses toward AI tools in teaching practices.

A cross-sectional explanatory design guided the quantitative component of the study (Cook, 2024; Oudmaijer, 2024). Data were collected through structured questionnaires measuring teachers' attitudes toward AI technologies and their perceived readiness to adopt AI-based tools in classroom instruction. Statistical analysis allowed the identification of relationships between psychological constructs and teachers' intention to use AI technologies in educational settings. Integration of this quantitative approach with qualitative inquiry enabled a more comprehensive understanding of the psychological processes underlying teachers' technology adoption behavior.

Qualitative data were collected to complement and enrich the quantitative findings. Semi-structured interviews were conducted with selected participants to explore teachers' experiences, concerns, and adaptive strategies when encountering AI technologies in their professional environments. Reflective responses provided insights into how teachers interpret the opportunities and challenges associated with AI integration in education. Triangulation of quantitative and qualitative data strengthened the validity and reliability of the research findings.

RESULT AND DISCUSSION

A total of 120 in-service teachers participated in this study, representing various subject areas including language education, science, mathematics, and social studies. Quantitative data were collected through structured questionnaires measuring psychological constructs related to teachers' adoption of artificial intelligence (AI) tools in education. Key variables included technological self-efficacy, perceived usefulness of AI tools, technological anxiety, innovation readiness, and psychological resilience. Descriptive statistical results summarizing these variables are presented in Table 1 within the article text (not separated) titled "Descriptive Statistics of Psychological Factors Influencing Teachers' Adoption of AI Tools."

Table 1. Descriptive Statistics of Psychological Factors Influencing Teachers' Adoption of AI Tools

Variable	Mean	Standard Deviation	Minimum	Maximum
Technological Self-Efficacy	3.98	0.52	2.60	4.85
Perceived Usefulness of AI Tools	4.12	0.49	2.95	4.90
Innovation Readiness	3.85	0.56	2.70	4.80

Psychological Resilience	3.90	0.50	2.80	4.75
Technological Anxiety	2.76	0.63	1.60	4.20
Intention to Adopt AI Tools	4.05	0.47	3.00	4.92

Descriptive analysis indicates that teachers generally expressed positive perceptions toward AI adoption. The highest mean score was recorded for perceived usefulness of AI tools (M = 4.12), suggesting that teachers recognize the potential benefits of AI technologies in enhancing instructional practices. Technological anxiety recorded the lowest mean score (M = 2.76), indicating relatively moderate concern regarding the complexity or risks associated with AI tools.

Patterns observed in the descriptive statistics reveal that teachers demonstrate a generally positive psychological orientation toward the adoption of AI technologies. High scores in perceived usefulness and technological self-efficacy suggest that many participants believe AI tools can improve teaching efficiency and support innovative instructional strategies. These perceptions appear to contribute positively to teachers' intentions to adopt AI-based technologies in educational contexts.

Moderate levels of technological anxiety were also observed among participants. Teachers expressed some concerns regarding ethical implications, data privacy, and the reliability of AI-generated educational content. These concerns did not appear to significantly diminish their willingness to experiment with AI tools. Evidence from the data suggests that teachers who perceive clear pedagogical benefits of AI technologies tend to overcome initial hesitation associated with technological uncertainty.

Additional analysis examined teachers' perceptions regarding the psychological transition from resistance to resilience when encountering AI technologies. Survey responses revealed that approximately 68% of participants reported initial hesitation when first introduced to AI-based educational tools. Concerns included unfamiliarity with AI systems, perceived threats to professional autonomy, and uncertainty about the reliability of automated teaching resources.

Follow-up responses revealed that a majority of participants gradually developed adaptive strategies for interacting with AI tools during the course of their professional practice. Approximately 74% of teachers reported increased confidence after experimenting with AI applications such as automated assessment tools, generative text systems, and adaptive learning platforms. These findings are summarized in Table 2 within the article text titled "Teachers' Psychological Responses to AI Tool Adoption."

Table 2. Teachers' Psychological Responses to AI Tool Adoption

Psychological Response	Percentage (%)
Initial hesitation toward AI tools	68%
Concern about ethical implications	55%
Increased confidence after experimentation	74%
Perceived improvement in instructional efficiency	79%
Willingness to continue using AI tools	72%

Inferential statistical analysis was conducted to examine relationships between psychological variables and teachers' intention to adopt AI tools. Pearson correlation analysis revealed a

significant positive relationship between technological self-efficacy and intention to adopt AI technologies ($r = 0.61$, $p < 0.01$). Teachers who demonstrated stronger confidence in their technological abilities were more likely to express willingness to integrate AI tools into their teaching practices.

Regression analysis further examined predictors of AI adoption intention. Results indicated that perceived usefulness ($\beta = 0.44$, $p < 0.01$) and psychological resilience ($\beta = 0.38$, $p < 0.01$) were significant predictors of teachers' willingness to adopt AI tools. Technological anxiety showed a negative but weaker relationship with adoption intention ($\beta = -0.19$, $p < 0.05$). These findings suggest that positive psychological factors may outweigh concerns related to technological uncertainty.

Analysis of relationships among psychological variables revealed meaningful interactions between teachers' perceptions and their adoption behavior. Teachers demonstrating high levels of innovation readiness also reported stronger psychological resilience when encountering technological challenges. Correlation analysis showed a significant relationship between innovation readiness and resilience ($r = 0.57$, $p < 0.01$), indicating that teachers who are open to innovation are more capable of adapting to new technological environments.

Relationships were also observed between perceived usefulness and technological self-efficacy. Teachers who believed that AI tools could improve instructional effectiveness were more likely to develop confidence in their ability to use these technologies. Such relationships suggest that positive beliefs regarding the value of AI technologies contribute to teachers' psychological readiness to experiment with new digital tools in their professional practice.

A qualitative case study involving one experienced language teacher illustrates the psychological transition from resistance to resilience when adopting AI technologies. The teacher initially expressed skepticism regarding the role of AI in education, particularly concerning the reliability of AI-generated learning materials and the potential erosion of teachers' professional expertise.

Classroom observations and reflective interviews revealed that the teacher gradually began experimenting with AI tools for lesson planning and formative assessment. The teacher incorporated generative AI systems to assist in designing reading comprehension exercises and language learning activities. Increased familiarity with these tools led to a more positive perception of AI technologies as supportive instructional resources rather than threats to professional autonomy.

Qualitative interview data provide deeper insight into the mechanisms underlying teachers' psychological adaptation to AI technologies. Teachers reported that practical experimentation with AI tools significantly reduced their initial anxiety and skepticism. Hands-on experience allowed them to evaluate the pedagogical benefits and limitations of AI technologies within real classroom contexts.

Professional collaboration also emerged as an important factor influencing teachers' adaptation processes (Joshi, 2022; Walker, 2023). Teachers frequently discussed AI-related challenges and solutions with colleagues during professional development workshops and informal learning communities. Such collaborative exchanges helped teachers develop shared strategies for integrating AI technologies responsibly and effectively within their instructional practices.

Findings of this study indicate that teachers' adoption of AI technologies is strongly influenced by psychological factors rather than purely technical considerations. Positive psychological attributes such as technological self-efficacy (Bhattarai, 2024; Papadopoulos, 2024), innovation readiness, and resilience appear to play crucial roles in shaping teachers' willingness to

experiment with AI tools. Concerns related to technological anxiety or ethical uncertainty may initially hinder adoption but can be mitigated through experience and institutional support.

Evidence from both quantitative and qualitative data suggests that the transition from resistance to resilience represents a dynamic psychological process (J. Wang, 2024; Zhang, 2023). Teachers who initially hesitate to adopt AI technologies may gradually develop confidence and adaptability when provided with opportunities for experimentation, collaboration, and professional reflection. These results highlight the importance of addressing psychological readiness when designing professional development programs aimed at supporting AI integration in educational settings.

Findings of this study indicate that psychological factors play a central role in shaping teachers' willingness to adopt artificial intelligence tools in educational contexts. Quantitative results demonstrate that technological self-efficacy, perceived usefulness of AI tools, and psychological resilience significantly influence teachers' intentions to integrate AI technologies into their teaching practices (Hartigh, 2022; Slavtcheva-Petkova, 2023). Teachers who expressed stronger confidence in their ability to use digital technologies also reported higher readiness to experiment with AI-supported instructional tools.

Descriptive results further reveal that teachers generally recognize the pedagogical value of AI technologies in improving instructional efficiency, supporting lesson planning, and facilitating adaptive learning experiences (Eshel, 2022; Spencer, 2024). Perceived usefulness recorded the highest mean score among the psychological constructs examined, indicating that teachers tend to adopt AI tools when they perceive clear benefits for teaching effectiveness and student learning outcomes.

Evidence from qualitative data supports the statistical findings by illustrating how teachers' attitudes toward AI technologies evolve through experience (Agostoni, 2023; Y. Wang, 2022). Participants initially expressed hesitation or skepticism regarding the reliability and ethical implications of AI systems. Continued exposure to AI tools through experimentation and collaborative learning gradually strengthened teachers' confidence and reduced their technological anxiety.

Patterns observed across the dataset indicate that the transition from resistance to resilience represents a dynamic psychological adaptation process (Gee, 2023; Murry, 2023). Teachers who initially resisted the introduction of AI tools often developed more positive attitudes after gaining practical experience and receiving institutional support. Such findings highlight the importance of psychological readiness and professional learning environments in shaping teachers' engagement with emerging educational technologies.

Results of this study align with previous research emphasizing the importance of psychological readiness in technology adoption within educational environments. Earlier studies examining technology acceptance among teachers have consistently identified perceived usefulness and technological self-efficacy as strong predictors of technology adoption behavior. Evidence from the present study reinforces these findings by demonstrating similar relationships in the context of artificial intelligence tools.

Research on emerging educational technologies has also highlighted the role of emotional responses such as anxiety, curiosity, and professional uncertainty in shaping teachers' attitudes toward innovation. Findings from this study correspond with these perspectives by illustrating how technological anxiety initially influences teachers' resistance to AI adoption. Teachers who lack familiarity with AI systems may experience uncertainty regarding their ability to control or evaluate such technologies.

Differences between the present findings and some previous studies deserve further attention. Several earlier investigations reported persistent resistance among educators toward advanced technologies due to concerns related to job displacement or ethical implications. Results from this study indicate that such resistance may gradually decrease when teachers are provided with opportunities for hands-on experimentation and collaborative learning experiences.

Comparative analysis also suggests that AI adoption in education may differ from the adoption of earlier digital technologies. Artificial intelligence introduces new concerns related to algorithmic decision-making, data privacy, and automated knowledge generation. Teachers' psychological responses toward AI technologies therefore appear to involve not only technical confidence but also deeper reflections regarding professional identity and ethical responsibility.

Results of this study indicate that teachers' responses to AI technologies involve a psychological transition rather than a simple acceptance or rejection of innovation. Initial resistance appears to reflect uncertainty about technological competence, professional identity, and the potential implications of AI for teaching practices. Development of resilience occurs when teachers gradually acquire confidence through experience and reflective engagement with new technologies.

Patterns observed in the study also indicate that teachers' professional identities influence how they interpret technological innovation. Some educators initially perceived AI tools as threats to their professional expertise or autonomy in the classroom. Exposure to practical applications of AI technologies helped many teachers reconceptualize these tools as supportive instructional resources rather than replacements for human expertise.

Evidence from the findings also suggests that psychological resilience plays a crucial role in enabling teachers to adapt to rapid technological change. Teachers who demonstrate openness to experimentation and learning appear more capable of navigating uncertainties associated with AI technologies. Such resilience may enable educators to transform initial technological resistance into opportunities for professional growth.

Results further indicate that successful technology adoption in education requires attention to both cognitive and emotional dimensions of teacher learning. Technical training alone may not be sufficient to support meaningful adoption of complex technologies such as artificial intelligence. Educational innovation therefore requires professional development models that address psychological readiness alongside technological competence.

Implications of these findings extend to the design of teacher professional development programs aimed at supporting AI integration in education. Training initiatives should incorporate opportunities for teachers to explore AI tools through guided experimentation, collaborative reflection, and practical application. Programs that combine technological instruction with psychological support may help teachers overcome initial resistance and develop confidence in using AI technologies.

Educational institutions may also benefit from creating supportive professional learning environments that encourage open dialogue regarding the opportunities and challenges associated with AI technologies. Teachers should be provided with safe spaces to discuss ethical concerns, share experiences, and reflect on the evolving role of technology in education. Such collaborative environments may strengthen teachers' resilience when encountering unfamiliar technological innovations.

Implications also extend to educational leadership and policy development. School administrators and policymakers should recognize that technological adoption involves complex psychological processes among educators. Institutional policies that encourage experimentation,

provide adequate technical support, and recognize teachers' professional autonomy may increase the likelihood of successful AI integration.

Broader implications highlight the role of teacher adaptability in shaping the future of AI-supported education. Teachers who develop psychological resilience and technological confidence are better positioned to guide students in navigating AI-enhanced learning environments. Strengthening these competencies may therefore contribute to more effective and ethically responsible integration of artificial intelligence within educational systems.

Several factors may explain the psychological patterns observed in this study. Initial resistance toward AI technologies may arise from uncertainty regarding the complexity and unfamiliarity of artificial intelligence systems. Teachers who lack prior exposure to AI tools may experience anxiety related to their perceived ability to understand or control these technologies within classroom environments.

Perceived usefulness appears to play a critical role in shaping teachers' attitudes toward AI adoption. Teachers who observe clear instructional benefits—such as improved efficiency in lesson planning or enhanced student engagement—are more likely to develop positive attitudes toward AI technologies. Recognition of practical advantages may therefore reduce psychological resistance associated with technological uncertainty.

Social and professional learning environments may also influence teachers' adaptation to AI technologies. Collaborative discussions with colleagues, participation in professional development workshops, and exposure to successful implementation examples may help teachers reinterpret AI technologies as opportunities rather than threats. Such social interactions may strengthen teachers' confidence in experimenting with new tools.

Institutional support structures may further contribute to the development of resilience among teachers adopting AI technologies. Access to training resources, technical assistance, and supportive leadership can reduce the perceived risks associated with technological experimentation. Teachers operating within supportive environments are more likely to engage with innovative technologies and develop adaptive professional practices.

Future research may explore the long-term psychological adaptation of teachers who integrate AI technologies into their instructional practices. Longitudinal studies could examine whether teachers' resilience continues to develop as they gain more experience with AI-supported learning environments. Such investigations may provide valuable insights into how sustained exposure to AI technologies influences teachers' professional identities and instructional strategies.

Further studies may also investigate how different educational contexts influence teachers' psychological responses toward AI adoption. Variations in institutional infrastructure, digital culture, and leadership support may shape teachers' experiences when integrating AI tools into teaching practices. Comparative research across different educational systems could reveal contextual factors that support successful adaptation to technological innovation.

Exploration of disciplinary differences in AI adoption represents another important direction for future research. Teachers in subjects such as science, language education, and mathematics may encounter different opportunities and challenges when integrating AI technologies into their classrooms. Understanding these variations may help educators design more context-sensitive professional development programs.

Educational practice may also benefit from the development of comprehensive frameworks that integrate psychological resilience, ethical awareness, and technological competence in teacher training programs. Professional learning ecosystems that support continuous experimentation,

reflective practice, and collaborative innovation may help educators navigate the rapidly evolving landscape of AI-supported education.

CONCLUSION

The most significant finding of this study lies in the identification of psychological resilience as a central factor influencing teachers' adoption of artificial intelligence tools in educational contexts. Evidence from both quantitative and qualitative analyses indicates that teachers' technological self-efficacy and perceived usefulness of AI technologies strongly contribute to their willingness to integrate these tools into their teaching practices. Initial resistance toward AI adoption often emerged from technological anxiety, ethical concerns, and uncertainty about professional identity. Gradual exposure to AI tools through experimentation and collaborative learning experiences helped many teachers develop adaptive responses that transformed hesitation into confidence. The results highlight that teachers' engagement with AI technologies represents a psychological transition from resistance to resilience rather than a simple acceptance of technological innovation.

The primary contribution of this research lies in its conceptual and methodological advancement in understanding teachers' adoption of artificial intelligence within educational environments. Conceptually, the study introduces a perspective that frames AI adoption as a psychological adaptation process shaped by resilience, innovation readiness, and professional identity transformation. Methodologically, the research integrates quantitative analysis of psychological constructs with qualitative insights from teachers' lived experiences in adopting AI tools. This combined approach allows for a more comprehensive understanding of how emotional, cognitive, and professional factors interact to influence technology adoption behavior among educators. Insights generated from this research contribute to the growing body of literature on artificial intelligence in education by emphasizing the importance of psychological readiness alongside technological competence.

Several limitations should be acknowledged when interpreting the findings of this study. The research sample consisted of teachers from a limited number of educational institutions, which may restrict the generalizability of the results to broader educational contexts. Differences in institutional infrastructure, access to AI technologies, and policy support may influence teachers' psychological responses toward AI adoption in other environments. The cross-sectional design of the study also limits the ability to observe long-term changes in teachers' attitudes and behaviors as they gain sustained experience with AI tools. Future research may expand the scope of investigation by conducting longitudinal studies that examine how teachers' resilience and technological confidence evolve over time. Comparative studies across different educational systems and disciplinary contexts may also provide deeper insights into the factors shaping successful integration of AI technologies in teaching practice.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.

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