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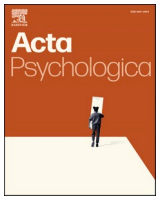

"I prefer to stay within my comfort zone": Exploring the causes and solutions of Iranian and Turkish EFL teachers' AI adoption reluctance

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ABSTRACT

Research on Artificial Intelligence (AI) and second/foreign language (L2) education has recently become a flourishing line of thinking. However, the psycho-affective states of teachers regarding AI tools have received insufficient scholarly attention. To address this void, this cross-cultural study examined the causes and solutions of Iranian and Turkish English as a foreign language (EFL) teachers' AI adoption reluctance. A total of 40 EFL teachers participated in a semi-structured interview and composed a narrative frame. The results of inductive thematic analysis indicated that a wide range of factors had caused Iranian and Turkish EFL teachers' AI adoption reluctance. Additionally, the participants in both contexts suggested some solutions for AI adoption reluctance, which involved similarities and dissimilarities. The findings are discussed, and implications are provided for EFL teachers and educators to encourage their acceptance and adoption of AI technologies in L2 education.

1. Introduction

The rapid development of the digital age and the integration of technology, particularly Artificial Intelligence (AI) has altered diverse aspects of second/foreign language (L2) education (Derakhshan & Ghiasvand, 2024; Ghiasvand & Seyri, 2025; Moybeka et al., 2023; Wang, Derakhshan, & Ghiasvand, 2025). The implementation of AI technologies in L2 education has also brought substantial changes to the conceptualization of teacher professionalism (Estaji & Ghiasvand, 2022; Gao, Wong, Khambari, Noordin, & Geng, 2022). AI technologies are beneficial for personalized learning experiences (Yang & Weng, 2023), greater student empowerment (Adıgüzel, Kaya, & Cansu, 2023), and improved assessment practices by means of interactions, discussions, and automatic question generation (Bozkurt et al., 2023). Additionally, AI chatbots has introduced more authenticity into L2 interactions regardless of space and time restriction (Fryer, Coniam, Carpenter, & Lăpușneanu, 2020). More importantly, AI-inclusion in L2 education interacts with teachers' and learners' emotions as well (Kim, Cha, & Kim, 2021; Seyri & Ghiasvand, 2025; Shao et al., 2023; Wang, 2023). As Kim et al. (2021) ascertained, emotionality and cognitions affect the use and acceptance of AI in educational milieus.

Although previous studies have supported the use of new technologies in teaching and learning (Alzubi, 2024; Tlili et al., 2023), still a considerable number of teachers are reluctant to adopt AI in their classes. The reasons for such reluctance include ethical concerns (Kaban & Ergul, 2020), safety and security issues (Lund & Wang, 2023), over-reliance (Kalra, 2024), and lack of training (Tlili et al., 2023). This sense of reluctance is especially evident in countries like Turkey and Iran, where educational practices and attitudes toward technology may differ significantly (Davoodi, Akbarpour, & Hadopour, 2021; Kuşcu & Zaimoğlu, 2022). Also, in these contexts, resources and traditional instructional practices and perspectives on technology may affect one's AI acceptance and adoption. The selection of Iran and Turkey as comparative contexts is strategic because these nations share identical socio-cultural characteristics through their collectivist structure and unified educational systems (Nestik et al., 2018). However, these two countries may operate with different technological features and global links because they exist under separate geopolitical systems (Rahimi & Tafazoli, 2022). Therefore, the inspection of such neighboring countries reveals how worldwide AI developments may affect the L2 education landscape in the expanding-circle.

In sum, while research on AI is flourishing in L2 settings, the psycho-emotional dimensions of EFL instructors concerning AI have been neglected, so far. Moreover, there is a scarcity of research on the factors contributing to EFL teachers' reluctance to integrate AI technologies into their classes. Moreover, cross-cultural investigation of AI integration has

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not been adequately explored, to date. Motivated by these gaps, the present research took a cross-cultural lens to explore the causes and solutions of EFL teachers' reluctance toward AI in the contexts of Iran and Turkey. The study provides insights into the challenges of AI adoption and offers strategies for effective and willing use of AI bots and chatbots in L2 education. The research is significant because it explores the confluence of cultural, pedagogical, and technical variables on the adoption of AI technologies in educational settings.

2. Literature review

2.1. AI and L2 education: A flourishing domain

AI technology has garnered noticeable attention in education during recent years (Chiu, Xia, Zhou, Chai, & Cheng, 2023; Wang et al., 2018) and a bulk of research has highlighted its effectiveness in L2 education domains (e.g., Bozkurt et al., 2023; Derakhshan & Ghiasvand, 2024; Wang et al., 2025; Yang & Wang, 2023). Previous studies have referred to some AI tools in L2 education including intelligent tutoring systems, automated writing evaluation tools, and interactive chatbots (Marcinkowski, Kieslich, Starke, & Lünich, 2020). AI technologies have been reported to offer personalized learning experiences in the EFL context (Kim et al., 2019) by providing real-time feedback, adapting learning content to student needs, and creating an immersive learning environment (Adıgüzel et al., 2023).

Among diverse affordances and realizations of AI, chatbots are deemed as revolutionary products, which facilitate authentic interactions and dialogues by exposing learners to real-life English regardless of time and place (Fryer et al., 2020). It should also be noted that AI tools facilitate the assessment of language skills through automating the evaluation process (Xi, 2023). AI can assist in large-scale language testing and assessment, and it ensures consistency and fairness in grading, while reducing teachers' workload (Ahmed et al., 2021). Additionally, the emergence of AI has ushered in practicing novel approaches, accelerating educational processes, and offering opportunities for resolving educational challenges (Derakhshan & Ghiasvand, 2024). Given such affordances, many instructors have endeavored to adopt AI-mediated instruction in their classes. However, this adoption can also create some challenges for teachers including a demand for multi-level literacy (Derakhshan & Ghiasvand, 2024), reduction of higher order thinking processes (Farrokhnia, Banihashem, Noroozi, & Wals, 2023), and constant monitoring of academic integrity and plagiarism (Tlili et al., 2023). Such challenges render AI adoption a sophisticated process for which many teachers may be reluctant.

2.2. Teacher reluctance to adopt innovative technologies: Causes and outcomes

The implementation of AI technologies in educational settings shows promising potential for optimizing the process of teaching and learning (Chen, Chen, & Lin, 2020; Pedro, Subosa, Rivas, & Valverde, 2019; Zhai et al., 2021). However, the reluctance of teachers continues to pose a substantial barrier to the effective use of these technologies. This reluctance can arouse due to the "inter-locking cultural, social, and organizational contexts in which they live and work" (Somekh, 2008, p. 450). In this context, teacher reluctance is not a monolithic construct, but it is a dynamic interplay of three dimensions, namely tools (complexity and perceived utility), environment (infrastructure and policy), and individuals (psycho-affective factors).

At the tool level, the fundamental properties of AI have a substantial impact on adoption. Teachers often resist technologies that they consider too complicated, inadequately adaptive, or pedagogically misaligned with the curriculum (Du & Gao, 2022; Ertmer & Ottenbreit-Leftwich, 2010). The lack of clarity about the "black box" nature of AI algorithms makes reluctance even more apparent, which in turn, leads to doubt in their efficacy and reliability (Gao et al., 2022). The tendency to be reluctant is typically an adaptive reaction to unsupportive environments. Structural barriers such as technical instability, lack of institutional funding, and rigid top-down forces to create a "forced adoption" climate increase resistance as well (Rahimi & Tafazoli, 2022). In contexts, where infrastructure is underdeveloped, teachers perceive AI adoption not as a professional opportunity, but as an additional administrative burden (Nistor, Lerche, Weinberger, Ceobanu, & Heymann, 2014; Wang, Liu, & Tu, 2021).

At the individual level, psychological variables are crucial. Resistance is often driven by the fear of professional obsolescence and a lack of digital self-efficacy, rather than mere "technophobia" (Khasawneh, 2018). Moreover, the use of AI often increases teachers' workload through additional documentation and training requirements. This continuous professional pressure can result in "technostress" and burnout, exhausting the emotional resources required for innovation (Ballet & Kelchtermans, 2008; Chen, Wang, & Gao, 2024). In addition to causal factors, reluctance produces concrete negative outcomes. Pedagogically, it restricts the use of innovative instructional methods, thus reducing learner engagement and academic achievement (Khasawneh, 2018). Professionally, teachers' AI resistance impedes their career adaptability and leads to a stagnation and disconnection from global L2 educational standards (Estrada-Muñoz, Castillo, Vega-Muñoz, & Boada-Grau, 2020).

Such approach to classify causes and consequences of AI reluctance aligns with technology acceptance model (TAM) as well. The complexity of AI tools affects users' perceived ease of use, while constraints from the environment impede reaching a level of perceived usefulness, thus impeding system adoption (Davis, 1989). The psycho-affective components appear as critical external influences that limit teachers' use of AI. In this context, resistance can be understood not just as a rejection of the instrument, but as an inadequacy of the structural and psychological conditions required for TAM's criteria.

2.3. Previous studies

With the rise of AI in L2 education, the important role of new technologies has recently become a research focus (e.g., Adıgüzel et al., 2023; Derakhshan & Ghiasvand, 2024; Yang & Wang, 2023). However, the emotional aspects in AI-driven settings have not received much attention from scholars. Regarding studies on teacher-related factors, research shows that adopting new technologies in EFL settings has led to both acceptance and resistance. A growing body of research indicates that EFL teachers generally hold a positive view of AI (Alkayalar, 2022; Huang & Teo, 2021). For instance, in their mixed-methods study, Ashrafzadeh and Sayadian (2015) explored that new technologies can significantly improve teaching practices in Iranian EFL classrooms. Likewise, Murphy (2019) pointed out that AI tools could tailor instruction and assist teachers to meet diverse student needs more effectively. Using TAM, Yang and Wang (2023) interviewed 48 Chinese EFL teachers and found that their views on technology adoption were strongly influenced by how easy they thought it was to use and how useful it seemed. In a survey research, Abbasi and Tabatabaee-Yazdi (2021) found that Iranian L2 teachers with greater self-confidence and openness were more likely to perceive AI technologies as useful and user-friendly.

Despite the general positive attitudes of EFL teachers toward new technologies, some scholars noted that EFL teachers often resist change for several reasons. For example, Yang and Wang (2023) studied Chinese EFL teachers and found that fear and unfamiliarity with AI tools hindered teachers from integrating these tools into their lessons. Similarly, Kuşcu and Zaimoğlu (2022) conducted a mixed-methods study with 15 Turkish EFL teachers and found that their fear of technology, stemming from a lack of familiarity, negatively affected their willingness to adopt new technologies. In another study, Davoodi et al. (2021) conducted a correlational study and stated that perceived ease of use and trialability significantly influenced Iranian EFL teachers' attitude toward

technology. The study highlighted the need for user-friendly AI applications. While an alluring body of research into AI exists, the role of emotionality among teachers have not received the attention it deserves. Furthermore, previous studies have examined traditional technology reluctance, while AI reluctance as a new line of inquiry has not been explored, to date. Additionally, few studies (if any) have addressed teachers' emotionality across cultures to probe how cultural factors could affect teachers' use of AI in their practices. To address these lacunas, this study intended to unravel the factors behind Turkish and Iranian EFL teachers' reluctance to embrace AI and its possible solutions. The study was guided by the following research questions:

1. What are the causes of Turkish and Iranian EFL teachers' AI adoption reluctance?
2. What are the solutions of Turkish and Iranian EFL teachers' AI adoption reluctance?

3. Method

3.1. Participants and context

Situated within the EFL contexts of Iran and Turkey, the present cross-cultural study recruited 40 English teachers, who were selected through a convenience sampling procedure. While this sampling limits statistical generalizability, it was deemed appropriate for this qualitative analysis to ensure access to "information-rich" cases willing to openly discuss sensitive topics like professional fear (Patton, 2002). They were non-homogenized and native speakers of Turkish and Persian. The age of the Iranian teachers ranged from 25 to 46 years, while Turkish teachers had an age range of 25 to 50 (Table 1). The participants of both contexts were teaching English in private institutes in Tehran and Istanbul. In both samples, female EFL teachers outnumbered the males. Academically, the majority of the teachers had MA and Ph.D. degrees in English language teaching, literature, and translation. In terms of teaching experiences, most of the participants in both contexts had an experience above 10 years. Regarding their technological background, participants' "AI Familiarity Level" (presented in Table 1) was determined based on self-reported data collected during the demographic phase. Teachers rated their own proficiency and frequency of AI usage on a three-point scale (Low: Rare/No use; Mid: Occasional use; High: Regular integration), ensuring that the sample represented a spectrum of technological readiness.

Table 1
Participants' demographics.

Information	Iran No. (%)	Turkey No. (%)
Age		
25–29	5 (25%)	4 (20%)
30–35	7 (35%)	9 (45%)
36–40	4 (20%)	4 (20%)
41–45	2 (10%)	2 (10%)
46–50	2 (10%)	1 (5%)
Gender		
Male	7 (35%)	8 (40%)
Female	13 (65%)	12 (60%)
Academic Qualification		
BA	2 (10%)	4 (20%)
MA	10 (50%)	11 (55%)
PhD	8 (40%)	5 (25%)
Major		
English Language Literature	5 (25%)	5 (25%)
English Language Teaching	13 (65%)	11 (55%)
Translation	2 (10%)	4 (20%)
Teaching Experience		
3–5	3 (15%)	3 (15%)
6–9	2 (10%)	4 (20%)
10–12	6 (30%)	5 (25%)
12^{+}	9 (45%)	8 (40%)
AI Familiarity Level		
Low	9 (45%)	9 (45%)
Mid	9 (45%)	8 (40%)
High	2 (10%)	3 (15%)

3.2. Instruments

3.2.1. Semi structured interview

In order to find out EFL teachers' perceptions of AI adoption reluctance in both countries, we employed a semi-structured interview including 4 open-ended questions (Appendix A). The interviewees had to answer the items in English. The interviews were audio-recorded and carried out by all the authors using the same protocol. After asking some warm-up questions, the researchers requested the teachers to explain their perceptions about AI adoption reluctance and its associated causes and solutions. Some interviews were face-to-face and others were held online using Google Meet. Each interview lasted 25 min on average. Other than core interview questions, requests for clarification and exemplification were also made during the interview sessions.

3.2.2. Narrative frame

To triangulate the data and move beyond providing a simple image of teachers' perceptions of the phenomenon (i.e., AI adoption reluctance), we decided to use a narrative frame to understand Iranian and Turkish EFL teachers' lived experiences of AI adoption reluctance, specifically to reduce researcher influence. As Barkhuizen and Wette (2008) posit, narrative frames allow participants to reflectively construct their experiences without the immediate pressure of face-to-face interaction, thus revealing deeper psycho-affective states. This instrument is useful in qualitative studies that focus on lived experiences of something. This tool was selected because in interviews the presence of the researcher influences the participants' responses, but in narrative frames they are free to reflect on their practices and experiences at their convenience and alone. Specifically, we designed a written narrative frame with two blanks in a grid echoing the research questions (Appendix B). Each frame contained 70 words on average. A simple explanation was provided to the respondents to provide valid data in the narrative frame completion.

3.2.3. Data collection

After some online meetings, the researchers in both countries agreed to use interviews and a narrative frame to glean the data for the study. They wrote six tentative interview questions and a frame with four blanks. Content validity was established through a two-stage review. First, two applied linguistics experts evaluated the items for clarity, cultural neutrality, and bias. Subsequently, it was observed that open-ended questions yielded vague responses during the pilot phase with five teachers; consequently, probing prompts were added into the interview protocol to elicit deeper reflections. All authors were involved in the data collection. They held the interviews either in person or online. However, the process and protocol were identical. After three weeks of sharing the invitation message via Telegram and WhatsApp, we could get the agreement of 40 EFL teachers, 20 from each country, to partake in this research. Ethical rigor was maintained throughout the study. Informed consent was obtained from all participants, ensuring their anonymity and right to withdraw. All digital data, including audio recordings (approx. 25–30 min per interview) and transcripts, were stored on encrypted drives. We also made sure not to have any conflict of interest with the respondents. A short explanatory note was also provided to teach the participants how to answer the narrative frame. On September 25, 2024, the researchers decided to close the data collection channel as they reached the saturation point, where further data added nothing new to previous ones. The interviews were then transcribed by the authors and the narrative frames were sorted based on research questions. The data were ready for the final thematic analysis using MAXQDA software (v.2020), as explained bellow.

3.2.4. Data analysis

The collected qualitative data were analyzed in different stages in a rigorous way. We drew on inductive thematic analysis to unpack Iranian and Turkish EFL teachers' perceptions and experiences of AI adoption reluctance in L2 classes. Braun and Clarke's (2006) model was used to thematically analyze the data. Additionally, to strengthen the coding process and add technology to qualitative data analysis (Baralt, 2011), MAXQDA software (v. 2020) was employed by the researchers. It should be noted that the three authors and an external coder were involved in the data analysis. First, we transcribed the data and read and re-read the teachers' responses several times to get a global understanding of their views. Salient sentences about teachers' reactions to AI adoption were highlighted and bolded in the transcripts. After recursively examining the data and get some initial ideas, we codified the data with some parent codes followed by sample extracts. Next, we collated the initial codes into potential themes using the *Creative Coding* function of MAXQDA. In the fourth stage, to review the themes, we took advantage of *Smart Coding Tools* of MAXQDA, which afforded us a broad thematic map. Then names and labels in accordance with the entire data and research goals were assigned to the extracted themes. We used compelling phrases to name the themes. Disagreements in coding were resolved in an online meeting held on Google Meet. In the sixth stage, a detailed report was produced using representative sample responses from the participants. Fig. 1 illustrates the inductive thematic analysis steps.

Table 2 presents a sample coding matrix that illustrates the analytical progression from raw data to finalized findings by mapping participant excerpts to their respective initial codes and emerging themes.

To provide rigor in the study, we employed different strategies that are essential in the qualitative research. To assure the credibility, we used peer debriefing strategy and member-checking by asking an expert to examine the thematic analysis and returning the data, themes, and interpretations to the participants to check their accuracy and relevance. Similarly, we invited another researcher to audit trail the study as a way of confirmability check. Thick description of the participants and contexts was also provided to observe the transferability of the findings. Moreover, the maxim of dependability was addressed by running inter-coder reliability analysis of the extracted themes by another researcher. The results of Krippendorff's alpha showed an agreement of 0.87. Furthermore, we established transparency by explicitly explaining all stages of data collection and analysis. The elements of each instrument were also elucidated. Concerning the positionality of the researchers in the interviews, we bracketed our own experiences of AI adoption and took an outsider perspective. In the narrative frame section, we were just data collectors and facilitators in case a question regarding grid completion came up. We tried to remain unbiased in the data analysis and final interpretations yet acknowledge that qualitative research cannot be absolutely objective.

Table 2
Sample coding process: From interview excerpts to emerging themes.

Participants' Excerpt	Initial Code	Emerging Theme
"Most Iranian teachers are not familiar with several functions of AI tools...." (T13)	- Not familiar with functions - Unaware of implementation	Lack of Familiarity
"Teachers are reluctant to use AI tools because there is no AI-specific training and professional development programs in Iran, at the moment." (T17)	- No AI-specific training - Lack of PD programs	Lack of Training
"I prefer to stay within my comfort zone and employ old methods and methodologies." (T11)	- Staying in comfort zone - Resisting change	Resistance to Change
"Teachers avoid AI tools... because they are uncertain about the effectiveness and efficacy of such applications." (T8)	- Avoidance due to uncertainty - Doubts about efficacy	Uncertainty about Effectiveness
"Workshops and seminars on AI tools are hands-on opportunities for teacher development and persuasion that AI tools are not our enemies." (T17)	- Workshops / Seminars - Hands-on opportunities	Teacher Training Courses (Solution)

4. Findings

4.1. Causes of AI adoption reluctance

To unveil the factors that caused EFL teachers' AI adoption reluctance in Iran and Turkey, a combined thematic analysis of the third interview question and the first blank of the narrative frame was carried out. The results evinced that eight factors had led to Iranian EFL teachers' AI adoption reluctance (Fig. 2). The most frequent causes were 'lack of familiarity', 'lack of training', 'poor infrastructure', 'resistance to change', and 'fear of AI tools'. As stated by T13, "*the reason for AI reluctance lies in the fact that most Iranian teachers are not familiar with several functions of AI tools. For instance, they might be unaware of how to implement them in the classroom*" (Interview). In her narrative frame, T3 reiterated that "*many teachers are not familiar with the types and uses of AI tools and consider them complex. Therefore, they show no willingness to apply them*". The second frequent cause was 'lack of training', which was asserted to be "*the reason for avoiding AI technologies in EFL classes because without training one cannot implement any practice*" (T7, Interview). Another teacher highlighted the importance of professional development courses by declaring that '*teachers are reluctant to use AI tools because there is no AI-specific training and professional development programs in Iran, at the moment*' (T17, Narrative Frame). Poor facilities and resources are the next cause of AI reluctance in Iran in support of which T20 maintained that '*for any acceptance and use of technology, especially AI tools, infrastructure is crucial. However, in Iran AI infrastructure and*

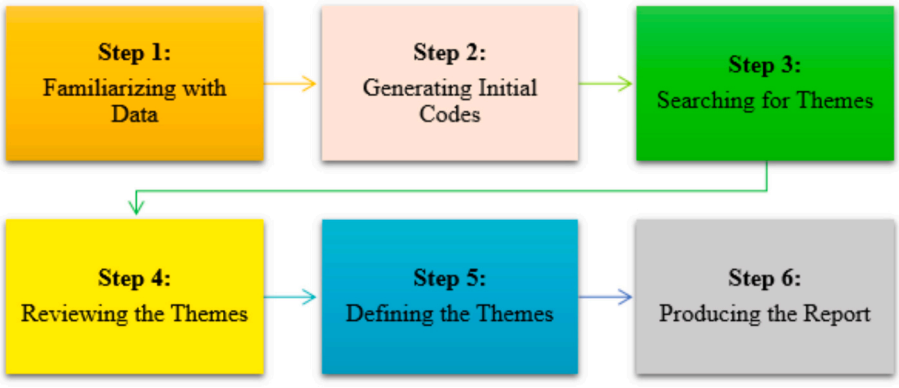

Fig. 1. Inductive thematic analysis steps.

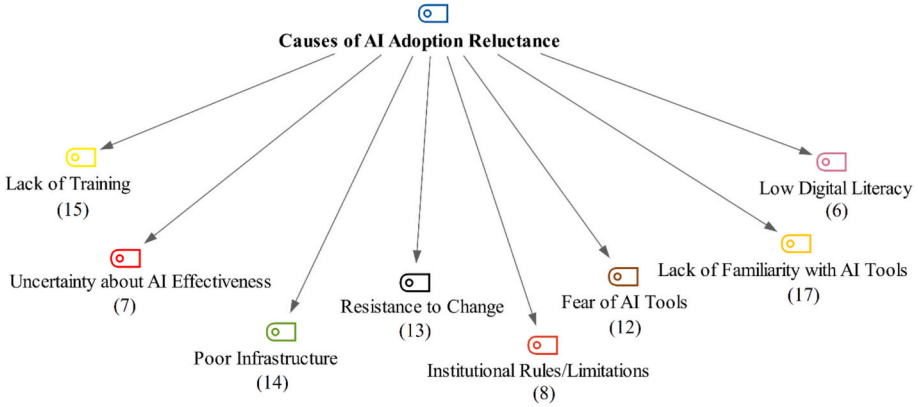

Fig. 2. Iranian EFL teachers' perceived causes of AI adoption reluctance.

facilities are poor and limited. Accordingly, EFL teachers prefer not to use new technologies in the class' (Interview). Teachers" resistance to change toward innovation and improvement was the next frequent cause of AI reluctance in Iranian EFL teachers. In this regard, one of the participants stated "*many teachers still firmly stick to old methods and tools and are resistant to any change, especially if it is related to technologies and innovative approaches to L2 education*" (T15, Narrative Frame). 'Fear of AI tools' was the fifth repeatedly mentioned cause in the Iranian sample. This is represented in the response of T10, who opined that "*teachers have fear of AI tools because they do not know their function and contribution. Such a fear makes them evade from AI technologies in L2 classes*" (Interview). Taking the same stance, T19 declared that "*fear of AI tools is a leading cause of AI adoption reluctance in many EFL teachers and that is a sad truth*" (Narrative Frame).

Other less common causes of AI adoption reluctance among Iranian EFL teachers were 'institutional rules/limitations', 'uncertainty about AI effectiveness', and 'low digital literacy'. In this regard one of the participants argued that:

> *There are several reasons for AI adoption reluctance in educational contexts, especially L2 education. For example, in some Iranian language institutes, teachers have to follow the rules and regulations of the institutes. They are not allowed to implement whatever they wish. There are limitations in terms of resources and freedom to apply AI technologies. Another causative factor is teachers' low digital literacy that makes them avoid technologies and this is more severe when it comes to AI tools that are cutting-edge* (T8, Interview).

Additionally, some teachers attributed their AI adoption reluctance to their doubts about AI tools. They specifically contended that "*teachers avoid AI tools in L2 education because they are uncertain about the effectiveness and efficacy of such applications. That is why they are reluctant to use them*" (Interview).

With respect to Turkish EFL teachers, the results revealed 11 causes of AI adoption reluctance (Fig. 3). The most recurrent factors included 'lack of training', 'lack of familiarity', 'job replacement by AI', 'technophobia', and 'ethical issues'. As noted by T8, "*the most common cause of AI adoption reluctance, to me, is not having enough training about AI integration therefore not knowing how to apply AI to classes*" (Interview). Another respondent suggested that "*a lack of proper training and support is a major cause in avoiding AI. Teachers need to see how AI is a tool to help rather than a danger*" (T20, Narrative Frame). The second cause was 'lack of familiarity' in support of which T11 declared "*many teachers are unfamiliar with AI tools and feel that they do not have enough knowledge about them, therefore hesitant to try them out*" (Interview). Focusing on their job and the risk of being replaced by AI technologies, some teachers considered 'job replacement by AI' as a cause of AI adoption reluctance in Turkey. For instance, one of the participants stated "*it is a reality that AI might replace teachers, especially language teachers. Given this concern, EFL teachers are reluctant to use AI tools in their L2 classes here in Turkey*" (T4, Narrative Frame). Technophobia was another common cause of AI

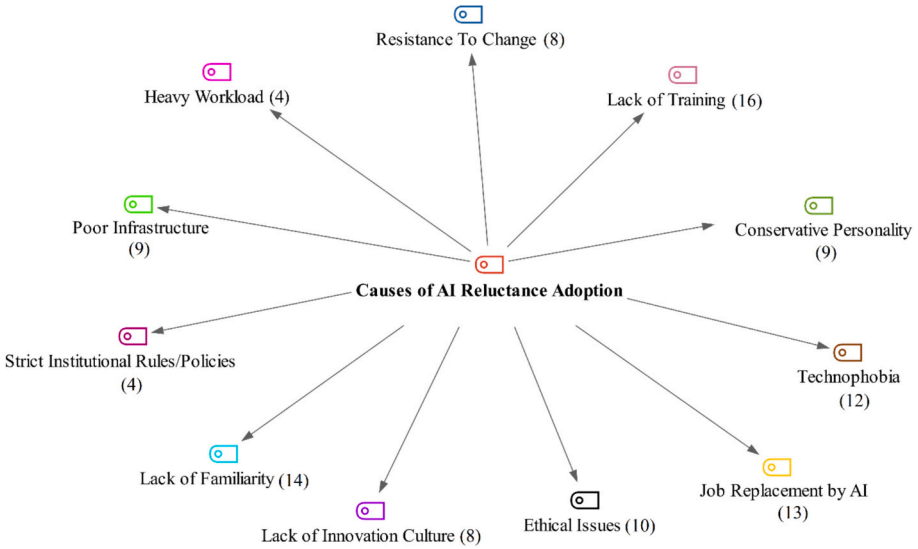

Fig. 3. Turkish EFL teachers' perceived causes of AI adoption reluctance.

reluctance among Turkish EFL teachers. As asserted by T17, "*despite developments in L2 teacher education, still many EFL teachers have technophobia and are afraid of technologies of any sort. They fear losing control of the learning process*" (Interview). Other teachers focused on ethics as the cause of AI reluctance. In this regard, it was stated that "*teachers are reluctant to use AI tools in L2 classes due to ethical issues such as data privacy, bias consideration, and academic integrity and the risk of damaging creative thinking and critical thinking*" (T3, Narrative Frame).

Additionally, the participants referred to other causes such as 'conservative personality', 'poor infrastructure', 'resistance to change', and 'lack of innovation culture' in the Turkish EFL context. As pinpointed by T11, "*some teachers are reluctant to use AI technologies just because of their conservative personality. I prefer to stay within my comfort zone and employ old methods and methodologies*" (Interview). Moreover, poor facilities were considered as causative factors because "*with a poor AI infrastructure, it is strange to expect willingness and passion to use them by teachers*" (T15, Narrative Frame). Another factor related to teachers themselves was their 'resistance to change'. In this regard, it was declared that "*some teachers resist changes in educational paths and trends. So, they avoid AI because they feel it is difficult to learn and implement*" (T12, Interview). The next cause was 'lack of innovation culture', which was claimed to "preclude the integration of novelty and cutting-edge knowledge into L2 education" (T20, Narrative Frame). Similarly, one of the teachers argued that:

> "*The absence of a learning and education culture that welcomes innovation and AI technologies is a significant cause of avoiding and being reluctant to accept and use AI tools in EFL classes. Everything that happens in educational settings is the outcome of the overall learning culture. Hence, lack of a supportive and welcoming AI culture may cause AI adoption reluctance in teachers*". (T10, Interview).

Two other less frequent causes were 'heavy workload' and 'strict institutional rules/policies'. As asserted by T4, "*there are many causes of AI reluctance, but I personally believe that teachers' heavy workload and busy schedule prevent them from using such tools*" (Narrative Frame). Furthermore, the strict rules and policies of institutes were found determinant because "*opposing and top-down policies limit teachers in using new tools and methods including AI tools*" (T18, Interview).

To conclude, the results indicated that a wide range of factors had caused Iranian and Turkish EFL teachers' AI adoption reluctance. Iranian teachers proposed eight factors, while Turkish teachers enumerated 11 factors. Of the overall set, 'lack of familiarity', 'lack of training', 'poor infrastructure', 'resistance to change', 'fear or technophobia', and 'institutional rules/policies' were similar in both contexts. Regarding points of divergence, the Iranian sample pointed to 'uncertainty about effectiveness' and 'low digital literacy' as causes of AI reluctance adoption, while the Turkish sample uniquely highlighted 'job replacement by AI', 'conservative personality', 'ethical issues', 'lack of innovation culture', and 'heavy workload'. Both educational contexts manifested similarities and dissimilarities in this study. An explanation for differences in posing certain themes more strongly in one context than the other could be variations in geopolitical systems, technological features, and global links across the two countries.

4.2. Solutions of AI adoption reluctance

The last part of interview and narrative frame was simultaneously analyzed to answer this research question on the solutions of AI adoption reluctance among Iranian and Turkish EFL teachers. Considering the Iranian sample, the results of thematic analysis demonstrated six solutions to the problem (Fig. 4). The most common strategies and practices were attending 'professional development programs' and 'teacher training courses' as well as 'knowledge and experience sharing', and 'media and social media' programs and advertisements. To operationalize the analysis and illustrate the link between participants' narratives and the emerged themes, specific keywords were traced back to broader categories. For instance, explicit references to "workshops" or "seminars" (e.g., T3) were synthesized into the theme of "Teacher Training Courses," while mentions of "Instagram", "LinkedIn" or "TV programs" (e.g., T18) were clustered under "Media and Social Media." This analytic step ensured that the reported strategies were directly

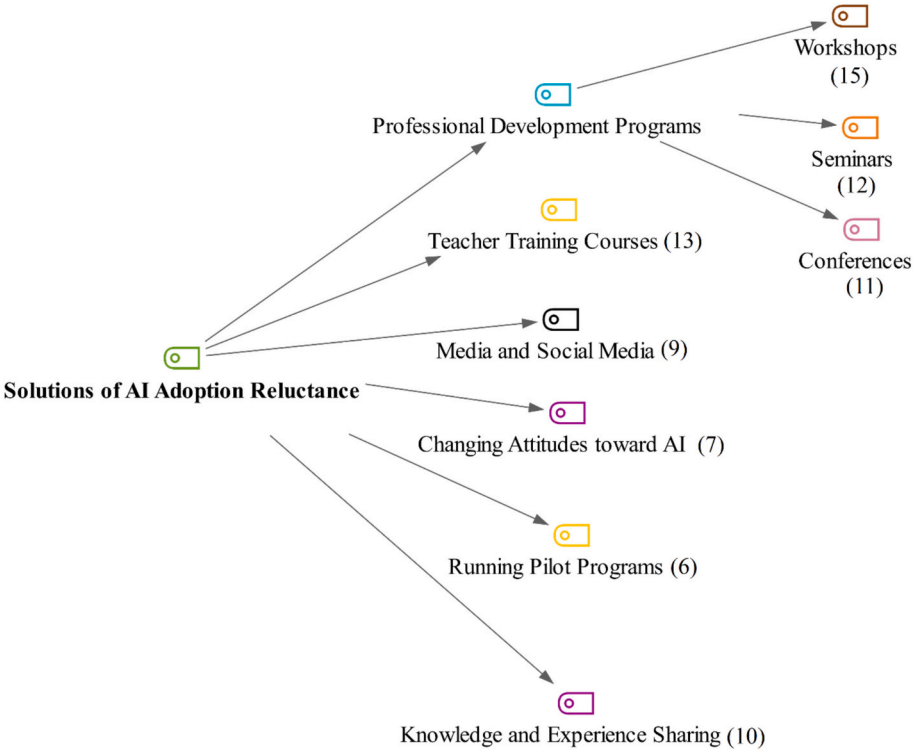

Fig. 4. Iranian EFL teachers' perceived solutions of AI adoption reluctance.

grounded in the semantic patterns of the interview data. As stated by T3, "*teachers can solve this problem by participating in training sessions and professional development courses that focus on the benefits and practical applications of AI in language teaching. This can help them feel more comfortable with this new technology*" (Interview). Another teacher emphasized on the role of training courses by declaring that "*the solution lies in the provision of AI-based and AI-oriented teacher training courses in which theoretical and practical aspects of AI bots and chatbots are explained to teachers*" (T7, Narrative Frame).

Trying to be more specific about such supportive programs, one of the respondents suggested that "*different forms of training and professional development programs such as workshops, seminars, and conferences related to AI technologies and L2 education are really effective in removing AI reluctance in teachers*" (T4, Interview). The next common solution was 'knowledge and experience sharing' in which "*teachers can share their own success stories of applying AI technologies in their L2 classes and transfer their knowledge to others to shift from reluctance to enthusiasm in using AI*" (T10, Narrative Frame). This means that "*solving such a new challenge requires a collective understanding"* (T2, Interview). Some teachers referred to the role of media and social media in dealing with AI adoption reluctance. For example, one of them argued that:

> "*Media such as TV programs and social media applications can solve this problem by explaining the uses and benefits of AI tools in language education. Many EFL teachers and students are now using social media like Instagram, LinkedIn, and Telegram by which the misconceptions around AI tools can be resolved*" (T18, Interview).

The next solution was making efforts to change the attitudes of stakeholders and institutes toward AI. This was highlighted in a narrative frame in which a teacher re-told his story of trying to convince an institute that "*AI tools are not bad things by nature, but facilitators for educators depending on how they are utilized*" (T20). Another teacher argued that "*attitude is really important as opposing and dogmatic attitudes toward AI can prevent even the discussion about their use let alone their practical integration*" (T2, Interview). The last extracted solution from Iranian data was 'running pilot programs' about AI and L2 education. As recommended by T3, "*Implementing small-scale pilot programs, where EFL teachers can experiment with AI tools in a supportive environment can build confidence and demonstrate the effectiveness of AI technologies*" (Interview). Similarly, another teacher stated "*we can run pilot programs about the actual use of AI tools in L2 education over a long period and report the findings to reluctant teachers seeing how such technologies can inform and contribute to L2 education*" (T11, Narrative Frame).

Concerning Turkish EFL teachers' perceived solutions, the results showed two identical strategies as the Iranian sample, namely 'teacher training courses' and 'professional development programs' related to AI (Fig. 5). The difference was that Iranian EFL teachers pointed to 'conferences', but Turkish teachers referred to 'webinars' as professional development programs. The following interview response represents these themes:

> *Well, to me, AI adoption reluctance can be solved if teachers willingly attend training courses and professional development programs such as workshops, seminars, and webinars related to AI. The programs can be national and international as well as face-to-face and virtual* (T18, Interview).

This excerpt emphasizes on teacher training and support without the constraints of modality and physical presence. Another teacher declared that "*workshops and seminars on AI tools are hands-on opportunities for teacher development and persuasion that AI tools are not our enemies*" (T17, Narrative Frame). The next common solution was 'collegiality and collaboration' among teachers and schools regarding the use of AI. As maintained by T6, "*AI adoption reluctance can be solved by establishing an atmosphere of healthy collaborations in school and around the world with colleagues regarding AI and education*" (Interview). Likewise, T20 stated that the problem can be solved by a collective attempt to "*encourage collaboration among teachers and create a supportive environment for learning new technologies*" (Narrative Frame). Another suggested practice was allocating agency to teachers in using AI technologies in their classes. In this regard, it was reiterated that "*an effective way is to let teachers gain agency in deciding when and where to use AI tools. There is no point in forcing teachers to adopt them in their classrooms*" (T4, Interview). Turkish teachers also suggested the use of 'awareness-raising and clarification' practices because many teachers are reluctant to use AI simply due to misunderstanding. As noted by T14, "*reluctant teachers need to be aware that AI technologies are not going to replace them or damage their job and its ethics. So, by making clarifications and offering awareness-raising tasks about technology the problem can be resolved* (Interview). The last solution was 'technical and practical support' for teachers regarding AI tools. As mentioned by T9:

> "*Although AI reluctance exists, schools can provide technical and practical support for unwilling teachers after encouraging them to use such tools. AI experts can give feedback to teachers' AI implementation and technological support such as updated AI tools can help in removing reluctance among teachers*" (Interview).

In sum, the results revealed that Iranian and Turkish EFL teachers had suggested and used a range of strategies and practices to solve AI adoption reluctance. Common solutions in both contexts were participating in 'teacher training courses' and 'professional development

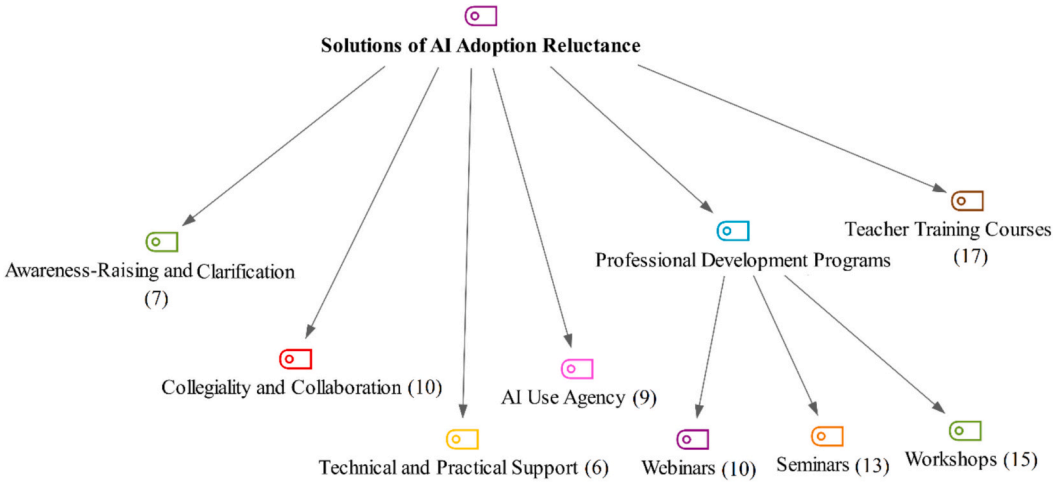

Fig. 5. Turkish EFL teachers' perceived solutions of AI adoption reluctance.

programs' related to AI. Iranian teachers highlighted 'conferences', but Turkish teachers highlighted 'webinars' as dissimilar professional development programs in this study. Moreover, Iranian teachers proposed four unique practices of 'knowledge and experience sharing', 'media and social media', 'changing attitudes toward AI', and 'running pilot programs' to solve AI adoption reluctance. On the contrary, Turkish EFL teachers uniquely pointed to 'collegiality and collaboration', 'AI use agency', 'awareness-raising and clarification', and 'technical and practical support' to resolve the problem. Both contexts indicated similarities and differences in dealing with AI adoption reluctance.

5. Discussion

This cross-cultural study set out to unpack the causes and solutions of Iranian and Turkish EFL teachers' AI adoption reluctance. The results indicated that teachers of both contexts similarly considered 'lack of familiarity', 'lack of training', 'poor infrastructure', 'resistance to change', 'fear or technophobia', and 'institutional rules/policies' as the most frequent causes of AI adoption reluctance. This is empirically reverberated by previous studies (e.g., Du & Gao, 2022; Gao et al., 2022; Koç, Altun, & Yüksel, 2022; Rahimi & Tafazoli, 2022), which reported the preventing role of lack of training, familiarity, institutional support, infrastructure, accessibility, and fear in adopting new technologies in education. Moreover, the findings echo Yang and Wang (2023) and Kuşcu and Zaimoğlu (2022), who conducted studies in China and Turkey and argued that EFL teachers had avoided the use of AI tools due to unfamiliarity with and fear of such technologies in L2 education. Our findings regarding teachers' emotional resistance resonate with deeper psychological mechanisms. For example, Chen et al. (2024), in their study, show that teacher burnout in technology-based educational settings depends on personal characteristics of individual personalities and their psychological capital levels. Similarly, Gabbiadini, Paganin, and Simbula (2023) argue that teachers will adopt remote technologies based on their ability to handle "technostress" which they identify as their main consideration.

Our study extends these findings by showing that in high-power-distance cultures like Turkey and Iran, this technostress is further amplified by a lack of institutional autonomy, suggesting that reluctance is not just a technical issue but a psycho-structural one. The combination of reluctance factors, which appear in both countries represents more than random occurrence because it demonstrates common cultural elements. Both Iran and Turkey are classified as high "uncertainty avoidance" societies (Hofstede, 2011). The unpredictable nature of AI algorithms creates risks, which these cultures see as destabilizing instead of viewing as exciting technological progress. The reported fear from participants stems from their cultural background, which rejects unclear situations instead of being caused by technology fear. This depends on institutional rules because teachers need more autonomy to use new methods, which reflects their high level of power distance. Moreover, teacher-centered L2 education in these two countries may be a justification for AI reluctance because AI technologies shift the attention from teachers to learners and learning. This might be, in turn, attributable to their dogmatic and old-fashioned professional beliefs in which innovation and learner agency play a marginal role in L2 education. Another extrapolation could be the idea that teachers in both countries have had the same perceptions about the usefulness and manageability of AI tools. This is consistent with TAM model (Davis, 1989) in that the participants' concerns about AI tools' usefulness and ease of use had shaped their attitudes toward and actual use of such tools. It means that they had indicated a low level of technology acceptance regarding AI tools. This might be due to their similar professional concerns about technology integration, limited infrastructure, and logistic challenges in applying AI technologies (e.g., large class size, time, resource, and budget limitations). The findings may also be ascribed to poor technological pedagogical content knowledge (TPACK) and AI literacy of the teachers in both countries making them doubtful of using AI tools in their classes. Lack of proper training is the root of such skepticism and mistrust in revolutionizing L2 classes with cutting-edge technologies.

Concerning teachers' divergent perceptions about the causes of AI reluctance, Iranian EFL teachers regarded 'uncertainty about effectiveness' and 'low digital literacy' as causes of AI reluctance adoption. These unique causes are partially in line with Du and Gao (2022) systematic analysis of factors preventing AI adoption in which doubts about technology effectiveness or efficacy was regarded significant. Likewise, Gao et al. (2022) contended that educators would use AI tools in case they perceive them as effective. Doubts about AI effectiveness is a clear representation of the first dimension of TAM (i.e., perceived usefulness). Mentioning low digital literacy by Iranian EFL teachers as a cause of AI adoption reluctance is consistent with Azarfam and Jabbari (2012) and Derakhshan and Ghiasvand (2024), who contended that EFL teachers require literacy in the digital age to effectively integrate AI tools and survive in the AI-mediated L2 education. A reason for Iranian teachers' uncertainty and low digital literacy might be their lack of AI-readiness, a finding reported by Ghiasvand, Kogani, and Alipoor (2024), who conducted a cross-cultural study on Iranian and Italian EFL teachers' AI-readiness and reported that Iranian teachers were not ready for the AI age. The educational context of Iran that is less technology-welcoming may explain the findings, as well. It can also be contended that the participants were reluctant to use AI technologies in their classes because of their closed and frozen identity systems (Ghiasvand & Seyri, 2025) seeing no need to take new roles and practices in the shifting world of education.

In contrast, Turkish teachers distinctively stressed 'job replacement by AI', 'conservative personality', 'ethical issues', 'lack of innovation culture', and 'heavy workload' as causes of their AI adoption reluctance. Perceiving ethical concerns, personality, and workload as contributing factors of technology (e.g., AI) adoption is empirically in tune with previous research (e.g., Chen et al., 2024; Kaban & Ergul, 2020). It appears that Turkish EFL teachers had a special focus on teacher-related factors in AI adoption reluctance in this study. They had considered a personal aspect for attributing their reluctance instead of casting all the blame on external factors. Their experience and educational degree may be the reason for such an augmented understanding of the field and profession. The participants also referred to innovation culture as a salient factor probably because all instructional efforts in the classroom boil down from higher learning culture of the institutes. It can then be postulated that Turkish learning culture is still resistant to accept AI technologies and innovation. The other unique cause was related to job replacement concerns among Turkish teachers. This might be due to their misunderstanding of the function and purpose of AI technologies in educational contexts. Such a low awareness is attributable to limited technological supports received from authorities and schools in Turkey. Moreover, the participants' job insecurity beliefs may explain this extracted cause.

Regarding the second objective of the study, the findings showed that Iranian and Turkish EFL teachers had both similarities and differences in proposing solutions for AI adoption reluctance. On the similar side, they both highlighted attendance in 'teacher training courses' and 'professional development programs' to solve AI reluctance, which is in agreement with prior research emphasizing AI-related teacher training (Davoodi et al., 2021; Kuşcu & Zaimoğlu, 2022; Parlakkılıç, 2014). This comparable view of solutions in both countries can be attributed to their similar collectivist cultural orientation and identical socio-cultural characteristics Nestik et al., 2018. Their equal knowledge of global trends in educational technologies may also explain the findings. It means that teachers in both countries knew the paths to solve the problem of AI reluctance, while its degree and causes may vary across their borders. Globalization and the rapid movements toward the digitalization of education may also justify the similarities in this study.

Regarding dissimilarities, Iranian teachers perceived 'knowledge and

experience sharing', 'media and social media', 'changing attitudes toward AI', and 'running pilot programs' as solutions of AI adoption reluctance. Their high TPACK and practical experience of using AI may explain such divergent solutions. It is implied that Iranian EFL teachers believed in shared practices of solving the issue by changing attitudes toward the goal of AI adoption. They had considered social media probably because of their more engagement with such applications in Iran. Being tech-savvy and generation Z teachers is another possible justification for having such unique solutions among Iranian EFL teachers. This is partially reflected in Derakhshan and Ghiasvand's (2024) study on ChatGPT in Iran that made similar contentions. Contextual differences, socio-cultural landscape, and educational approaches (e.g., top-down vs. bottom-up views of authority, agency, and decision-making) may underlie the differences in solutions. On the other hand, Turkish EFL teachers exclusively advocated 'collegiality and collaboration', 'AI use agency', 'awareness-raising and clarification', and 'technical and practical support' as solutions of AI reluctance. The Turkish participants' progressive and bottom-up views of education, where autonomy, agency, and interaction are highlighted may explain the suggestion of the first two themes here. They had shown an interpersonal and independent conceptualization of AI adoption, which may have roots in their national identity and collectivist culture. The participants pinpointed 'awareness-raising and clarification' probably due to their admission of common misunderstandings revolving around AI integration in Turkish EFL classes. Low AI literacy of EFL teachers may be another reason for calling for awareness-raising practices in Turkey. Finally, the teachers recommended 'technical and practical support' to solve AI reluctance in Turkey, which concurs with previous studies in other EFL contexts (Alhumaid, Naqbi, Elsori, & Mansoori, 2023; Azarfam & Jabbari, 2012; Wang et al., 2021) claiming that supports from institutions are vital for preventing and reducing technology reluctance. Again, this evinces the participants' belief in shared and collective views of removing AI adoption reluctance in Turkey. They have been apparently supportive of collaboration and networking to cope with the problem instead of solo attempts.

6. Conclusion

This study explored the causes and solutions of Iranian and Turkish EFL teachers' AI adoption reluctance. From the findings, some conclusions can be drawn. First, teachers in EFL settings may have similar views of AI adoption challenges despite contextual variations. That might be due to the novelty and recency of AI technologies to many L2 educators. Second, AI adoption reluctance is a common issue in educational context that is solvable through persistent individual and collective practices. Third, it is asserted that EFL teachers may still experience negative psycho-affective states (e.g., reluctance) when integrating AI technologies in their L2 classes, despite increasing evidence on the benefits of such tools. Moreover, it can be contended that the issue of AI adoption reluctance may have culture-specific and culture-free causes and solutions at the same time. In other words, some causative factors and coping techniques may be universal, while others are context-dependent. Generally, the study implies that AI adoption reluctance is the outcome of a complicated network of factors that can be solved by providing support, training, and infrastructure.

The main contribution of this cross-cultural research is that it clarifies that reluctance is not simply a lack of technical skills. Instead, it functions as a protective measure shaped by cultural factors, such as high uncertainty avoidance, and environmental limitations. Likewise, the study uniquely connects teacher psychology factors to AI research by mapping the causes and solutions of teacher reluctance. By pinpointing "technostress" and "ethical anxiety" as key obstacles, this study reveals the common beliefs about AI adoption in education. Theoretically, it advances the Technology Acceptance Model (TAM) by showing that in high-power-distance cultures like Iran and Turkey, Perceived Usefulness is closely tied to institutional support instead of personal choice. Practically, the study informs EFL teachers in Iran and Turkey by enhancing their awareness and knowledge of AI adoption in L2 education and how their sense of reluctance can be removed. Teachers can draw on personal and professional practices to get familiar with the causes and solutions of AI reluctance. Teacher educators may take advantage of this study by providing research-and-practice-informed training courses on AI technologies for pre-service and in-service teachers in EFL settings. Common challenges and techniques to get away from hurdles can be taught to teachers in such programs. Seminars, webinars, and workshops on AI-powered L2 education can be offered by teacher trainers to convert reluctance into acceptance and willingness.

At a broader level, educational institutions may draw on the findings to establish low-stakes pilot programs, which allow teachers to test AI tools through non-evaluative activities with professional relevancy. Moreover, schools should set up "peer-support groups" instead of using top-down training to address the isolation found in both contexts. Teachers are more likely to adopt innovation when validated by colleagues facing similar constraints. The long-term institutional strategies of policymakers need to understand that access serves as the essential foundation, which leads to acceptance according to their technological limitations in their contexts. Ministries need to purchase AI tools, which operate independently from the internet, and they should create moral guidelines which prove to teachers that AI functions as their assistant rather than their substitute. In other words, for contexts with limited technology like Iran, policymakers must focus on "offline-first" AI solutions and local servers to avoid issues with internet stability. They should recognize that having access is essential for gaining acceptance. In Turkey, where the infrastructure is stronger, the focus should change to ethical regulation and integration frameworks. Ministries must publish clear "Human-in-the-Loop" mandates. It is important to reassure teachers that AI is legally and educationally defined as an "assistant" rather than a "substitute." This can help reduce fears of cognitive dependence and ensure ethical fairness.

Notwithstanding these implications, this study involved some limitations. The sample size from both countries was limited (20 teachers from each). Future studies can collect data from a larger sample size to claim generalizability, using mixed-methods research designs to validate the psycho-affective patterns on a broader scale. The second limitation was the use of convenience sampling that may have affected data representativeness. The third limitation was the exclusion of the mediating role of teacher experience, gender, age, and AI literacy level in this study. Future research can focus on these background factors in perceiving AI adoption reluctance. One-shot data collection and pure qualitative design limited this study, too. It is then advisable to work on the dynamism of AI adoption reluctance through longitudinal and case studies. Other stakeholders' voices can also be heard in triangulated studies that unveil matches and mismatches. The extracted themes could have been more refined as there are some overlaps in them. Future researchers are recommended to replicate the study but employ multi-round and iterative qualitative data analysis techniques like constant comparative analysis and grounded theory to condense and collate the themes deeply. Finally, this study did not focus on specific AI tools, hence future research is recommended to distinguish between the reluctance of generative AI tools and other emerging bots.

Authors' Contribution

All authors have materially participated in the research and article preparation. Additionally, all authors have approved the final article.

CRediT authorship contribution statement

Farhad Ghiasvand: Writing – review & editing, Writing – original draft, Visualization, Supervision, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Haniye Seyri:**

Writing – review & editing, Writing – original draft, Data curation. **Selin Demir:** Writing – review & editing, Writing – original draft, Data curation.

Consent for publication statement

The authors, hereby, give their consent for the publication of this article in ***Acta Psychologica.*** We also affirm that the content of the manuscript is original and has not been published elsewhere. Moreover, the journal has a non-exclusive right to reproduce and distribute the article in print and electronic formats. We understand that our names and affiliations will be published along with the article, and we agree to be held responsible for any ethical or legal issues arising from the publication of the manuscript.

Ethical approval

Ethical review and approval was not required for the study on human participants. The participants provided their written informed consent to attend this study.

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Declaration of competing interest

The authors declare that they have no competing interests.

Appendix A

Interview Questions:
Part A) Demographic Information:

1. Age:
2. Gender:
3. Major:
4. Nationality:
5. First Language:
6. Teaching Experience:
7. Level of Familiarity with AI Technologies:
8. University Degree:

Part B) EFL Teachers' Perceptions about AI Adoption Reluctance

1. How often do you use AI technologies in your English classes? What do you think of their integration?
2. Do you think teachers show the same reactions to adopting AI technologies? Why aren't some teachers willing to use them in the class?
3. Based on your experience, what are some causes of AI adoption reluctance among EFL teachers? Please explain your view.
4. What solutions do you suggest for encountering AI adoption reluctance, as an EFL teacher? Please elaborate on your response.

Appendix B

Narrative Frame:

Dear teachers, please complete the following grid using **another color** to type. Refer to your real-life experiences of AI adoption reluctance.

Data availability

Data will be made available on request.

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