

Examining Iranian EFL Teachers' Perceived Effect of Anxiety on Pedagogical Competence in Online Education

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Article Info

Article type:

Original Research

How to cite this article:

Mireghaffari Nouhadani, S. E., Aghajanzadeh Kiasi, B., & Mousavi, S. N. (2026). Examining Iranian EFL Teachers' Perceived Effect of Anxiety on Pedagogical Competence in Online Education. *Iranian Journal of Educational Sociology*, 9(4), 1-17.
<https://doi.org/10.61838/kman.ijes.1530>



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ABSTRACT

Purpose: This study aimed to examine Iranian high-school EFL teachers' perceptions of the effect of online teaching anxiety on their pedagogical competence and determine whether these perceptions differed according to gender, teaching experience, university degree, and field of study.

Methods and Materials: The study employed a mixed-methods descriptive design. A researcher-developed questionnaire, entitled Teachers' Online Pedagogical Competence as Affected by Anxiety (TOPCA), was initially administered to 240 Iranian high-school EFL teachers in Guilan Province for validation through principal component analysis with varimax rotation. After item reduction, the final questionnaire contained 43 items and demonstrated high internal consistency. The validated instrument was subsequently administered to 120 EFL teachers selected through convenience sampling. In addition, 10 teachers participated in semi-structured interviews to provide qualitative explanations of their perceptions. Quantitative data were analyzed using exploratory factor analysis and one-way analyses of variance, while interview data were transcribed, coded, categorized, and examined through content analysis.

Findings: The Kaiser-Meyer-Olkin value was 0.764, and Bartlett's test of sphericity was significant, supporting the suitability of the data for factor analysis. Principal component analysis retained 13 components with eigenvalues greater than one, accounting for 67.858% of the total variance, and the final TOPCA questionnaire achieved a Cronbach's alpha coefficient of 0.93. No statistically significant differences were found in TOPCA scores according to gender, $F(2, 118) = 0.142$, $p = 0.709$; field of study, $F(4, 116) = 0.456$, $p = 0.789$; or university degree, $F(5, 115) = 0.174$, $p = 0.841$. However, a statistically significant difference was found among teachers with different levels of teaching experience, $F(6, 114) = 4.070$, $p = 0.008$. Interview findings supported the quantitative results by identifying concerns related to lesson planning, classroom management, instructional updating, and online assessment.

Conclusion: Online teaching anxiety was perceived to influence several dimensions of Iranian EFL teachers' pedagogical competence, while teaching experience emerged as the principal professional characteristic differentiating these perceptions.

Keywords: EFL teachers; online teaching anxiety; pedagogical competence; online education; teacher perceptions; teaching experience

1. Introduction

Teachers constitute one of the most influential determinants of educational quality because they translate curricular intentions, institutional policies, and disciplinary knowledge into meaningful learning experiences. Their effectiveness depends not merely on subject-matter knowledge but also on pedagogical competence, broadly understood as the integrated ability to plan instruction, select appropriate teaching strategies, manage learning environments, motivate students, assess learning, provide feedback, adapt instruction to learner differences, and reflect on professional practice. In English as a foreign language (EFL) education, pedagogical competence is particularly consequential because teachers must simultaneously facilitate linguistic knowledge, communicative performance, learner participation, affective engagement, and interaction in a language that students may encounter only within formal educational settings. Consequently, the quality of EFL instruction is closely associated with teachers' capacity to transform language knowledge into accessible, context-sensitive, and developmentally appropriate learning activities. Research on English-language teachers' professional competence has accordingly emphasized that pedagogical competence is a multidimensional construct involving instructional planning, classroom management, assessment, professional development, learner support, and the effective application of language-teaching principles (Aghajanzadeh Kiasi, 2022). Similarly, investigations of EFL teachers' readiness and curriculum implementation indicate that successful teaching requires the coordinated use of pedagogical knowledge, instructional skills, professional attitudes, and the ability to respond to changing curricular and contextual demands (Firman et al., 2019).

Pedagogical competence cannot be separated from the ethical and social responsibilities of teaching. Teachers make decisions that affect learners' participation, opportunities, confidence, and access to knowledge. Therefore, competent teaching involves not only methodological efficiency but also critical reflection on how instructional practices include or marginalize learners. A pedagogy of responsibility requires teachers to examine routine practices, question uncritical assumptions, and design instruction that recognizes students' diverse identities, needs, and educational circumstances (Berchini, 2017). Teacher education must likewise prepare teachers to respond to social, institutional, and democratic challenges

through informed instructional design rather than treating teaching as the mechanical application of predetermined techniques (Carter et al., 2018). These perspectives are especially relevant to online education, where participation, communication, visibility, access to technology, and opportunities for interaction may be distributed unevenly. In virtual EFL classrooms, pedagogical competence therefore entails not only operating digital platforms but also preserving instructional clarity, interpersonal support, learner engagement, equitable participation, and meaningful language practice.

The rapid expansion of educational technologies has substantially altered the conditions under which pedagogical competence is enacted. Digital platforms now support synchronous and asynchronous communication, multimedia presentation, automated assessment, collaborative learning, individualized feedback, and access to extensive language-learning resources. Technology-enhanced language education can provide learners with authentic materials, multimodal input, communication opportunities, and flexible forms of participation that may be difficult to create in conventional classrooms (Shadiev & Yang, 2020). Nevertheless, the availability of technological tools does not automatically produce effective teaching. Digital technologies acquire pedagogical value only when teachers can select, organize, and employ them in ways that correspond with learning objectives, learner characteristics, and sound instructional principles. Thus, online pedagogical competence requires an integration of technological knowledge with disciplinary and pedagogical knowledge rather than the isolated acquisition of technical skills.

Teachers' use of technology is also shaped by their pedagogical beliefs. A systematic examination of qualitative evidence has shown that beliefs about teaching, learning, knowledge, classroom authority, and student participation influence whether and how teachers integrate technology into their practices (Tondeur et al., 2017). Teachers who view learning as active, interactive, and learner-centered may employ digital tools to support collaboration, inquiry, and communication, whereas teachers with more transmission-oriented beliefs may use the same technologies mainly to deliver information. Technology integration is therefore a pedagogical and psychological process as much as it is a technical one. Concerns reported by instructors regarding infrastructure, instructional effectiveness, workload, and the compatibility of technology with existing practices further demonstrate that teachers' perceptions significantly influence the quality of technology integration

(Ashrafzadeh & Sayadian, 2015). Accordingly, understanding online teaching requires attention to teachers' beliefs, concerns, confidence, emotions, and perceived competence.

Technology adoption research similarly suggests that teachers' decisions to use digital systems depend on perceived usefulness, perceived ease of use, attitudes, intentions, and contextual support. Meta-analytic evidence based on the Technology Acceptance Model indicates that these factors are meaningfully associated with educators' adoption of digital technology (Scherer et al., 2019). Earlier research also showed that teacher adoption is influenced by prior experience, institutional conditions, professional learning, and opportunities to integrate technology into authentic pedagogical practice (Aldunate & Nussbaum, 2013). More recent studies have extended this perspective by demonstrating that digital competence is closely connected to the quality and diversity of teachers' instructional practices. Teachers who possess stronger digital competence are generally better positioned to select appropriate tools, design technology-supported activities, manage digital learning processes, and adapt their pedagogy to virtual environments (Yurdakul & Demir, 2025). However, digital competence alone may not guarantee adoption, because teachers' willingness to employ advanced systems is also influenced by teaching efficacy, goal orientations, anxiety, and trust. Research on artificial intelligence-based teaching-analysis systems has shown that teachers' confidence in their instructional abilities and their anxiety toward emerging technologies can directly or indirectly affect their willingness to use such systems (Wang et al., 2025). These findings highlight the importance of examining emotional and psychological variables alongside technological competence.

The transition to online education became especially visible during the COVID-19 pandemic, when schools and universities across the world were compelled to replace or supplement face-to-face instruction with remote teaching. Online learning was initially presented as an essential response to educational disruption because it allowed instruction to continue despite physical distancing and institutional closure (Dhawan, 2020). Yet emergency remote teaching differed from carefully planned online education. Teachers were often required to redesign courses rapidly, learn unfamiliar technologies, communicate with students remotely, manage online participation, and develop alternative assessment procedures without adequate preparation. Reports from the early weeks of the pandemic

revealed substantial differences in institutional readiness, access to digital resources, instructional approaches, and the support available to teachers and administrators (Johnson et al., 2020). Consequently, the sudden transition did not simply change the medium of instruction; it intensified existing pedagogical challenges and generated new professional and psychological demands.

Teaching during a crisis required teachers to adopt a flexible mindset, accept uncertainty, prioritize essential learning outcomes, and maintain supportive relationships with learners despite unstable conditions (Merrill, 2020). However, such adaptation was difficult when teachers were simultaneously exposed to concerns about health, family safety, workload, employment, technological failure, and students' unequal access to online learning. The broader psychological environment of the pandemic was characterized by interconnected fears of infection, contamination, socioeconomic consequences, traumatic stress, and reassurance-seeking, which were conceptualized as dimensions of COVID stress syndrome (Taylor et al., 2020). Teachers were not isolated from these stressors. Rather, they had to perform demanding professional roles while coping with the same uncertainty and threats affecting the general population.

Evidence from the pandemic period indicates that teachers' mental health and physical well-being were significantly challenged during lockdown. Changes in routine, reduced physical activity, social isolation, increased screen exposure, and blurred boundaries between work and private life were associated with poorer psychological outcomes among educators (Aperribai et al., 2020). At the same time, resilience and different dimensions of personal functioning were found to be related to teacher burnout, suggesting that emotional, social, physical, and spiritual resources may protect teachers against occupational exhaustion (Ismail et al., 2020). These findings are important because anxiety and burnout may undermine concentration, decision-making, motivation, instructional creativity, emotional availability, and persistence. When teachers experience persistent anxiety, they may avoid unfamiliar tools, rely on restricted teaching methods, reduce interaction, or interpret routine technological difficulties as evidence of personal inadequacy.

For language teachers, the shift to online instruction created particularly complex demands. Language education depends heavily on interaction, spontaneous communication, corrective feedback, learner participation, and the management of affective barriers. During the

emergency conversion to online teaching, language teachers used a range of coping strategies, and these strategies were associated with their stress, well-being, and negative emotions (MacIntyre et al., 2020). Adaptive coping could help teachers reinterpret difficulties, seek support, organize their workload, and maintain professional functioning, whereas maladaptive responses could intensify anxiety and emotional exhaustion. Studies focusing specifically on EFL teachers have identified several sources of remote teaching anxiety, including insufficient technological knowledge, unstable internet access, unfamiliarity with online pedagogy, difficulties in monitoring learners, concerns about assessment validity, reduced interaction, increased preparation time, and uncertainty about teaching effectiveness (Akban & Dikilitas, 2022). These sources indicate that online teaching anxiety is not a single fear but a multidimensional response arising from the interaction of technological, pedagogical, institutional, and interpersonal pressures.

Technostress provides a useful framework for understanding some of these experiences. Technostress refers to negative psychological responses that emerge when individuals perceive that technological demands exceed their coping resources or threaten their professional effectiveness. Teachers may experience anxiety when systems are difficult to use, technical problems interrupt lessons, institutional expectations change rapidly, or continuous connectivity increases workload. Positive technology approaches suggest that technostress can be reduced by designing technologies and work practices that promote usability, engagement, competence, and psychological well-being (Brivio et al., 2018). Nevertheless, organizational support is essential. Teachers cannot be expected to overcome anxiety solely through individual effort when problems originate in inadequate infrastructure, poorly designed platforms, limited training, or unrealistic institutional demands.

Self-efficacy is another central construct linking anxiety to pedagogical competence. Teacher self-efficacy refers to educators' beliefs in their ability to organize and execute the actions required to achieve desired instructional outcomes. During the pandemic, teachers' emotions, implicit beliefs, and self-efficacy were closely interconnected, indicating that teachers who felt more capable of managing instructional demands were better able to maintain constructive emotional responses (Nicolosi et al., 2023). Research on elementary teachers returning to teaching during COVID-19 also demonstrated the importance of self-efficacy in navigating

uncertain and demanding educational conditions (Pressley, 2021). Anxiety may weaken self-efficacy by directing attention toward anticipated failure, technical breakdown, negative evaluation, or loss of classroom control. Conversely, stronger self-efficacy may enable teachers to interpret technological difficulties as manageable problems rather than threats to professional identity.

Teachers' well-being, motivation, and emotions are therefore integral to the quality of emergency and routine online education. Evidence from emergency remote teaching shows that teachers' emotional experiences and motivational states were associated with their ability to manage the transition and sustain their professional engagement (Panadero et al., 2022). Teachers experiencing positive emotions and autonomous motivation may be more willing to experiment with digital tools, revise lesson plans, communicate with students, and seek professional support. In contrast, anxiety may restrict cognitive flexibility and encourage avoidance, overcontrol, or dependence on familiar techniques. This is particularly problematic in language teaching, where teachers must respond dynamically to learner comprehension, participation, and communicative needs.

Anxiety in online language education may also be understood within the broader affective characteristics of foreign-language learning and teaching. Online foreign-language courses can generate psychological anxiety because learners and teachers must communicate through technologically mediated environments in which delays, reduced nonverbal cues, performance visibility, and technical instability may intensify apprehension (Wang & Zhang, 2021). Although much language-anxiety research has focused on learners, teachers may also experience anxiety related to their own language performance. Nonnative EFL teachers may worry about pronunciation, spontaneous speaking, linguistic accuracy, and comparison with idealized native-speaker standards. Recent evidence indicates that speaking anxiety remains relevant even among in-service nonnative primary-school EFL teachers and may be associated with personal, linguistic, evaluative, and instructional concerns (Pinar, 2025). Online teaching can amplify these concerns because teachers' speech may be recorded, technical delays may disrupt fluency, and reduced visual feedback may make it difficult to judge learners' comprehension.

Professional preparation and practical experience may moderate these difficulties. The development of teacher competence depends not only on theoretical coursework but

also on sustained opportunities to apply pedagogical knowledge in authentic settings. Research on pre-service teachers has indicated that the duration and quality of pedagogical practice contribute to the development of instructional competencies (Shahini, 2025). Practical experience can familiarize teachers with lesson planning, classroom management, assessment, learner diversity, and reflective decision-making. However, extensive experience in conventional classrooms may not automatically transfer to online environments. Some experienced teachers may possess strong general pedagogical competence but limited digital experience, whereas less-experienced teachers may be more familiar with technology but less confident in classroom management and assessment. Consequently, teaching experience may have a complex relationship with online teaching anxiety and pedagogical competence.

Demographic and professional characteristics may further influence how teachers perceive online pedagogical demands. Gender may be associated with unequal domestic responsibilities, technology-related socialization, or differential exposure to occupational stress, although findings are not always consistent. Academic degree may reflect differences in theoretical knowledge, disciplinary specialization, or research experience, but it may not directly indicate preparedness for online teaching. Field of study may also shape teachers' familiarity with language pedagogy, linguistics, literature, translation, or technology-enhanced learning. Teaching experience, by contrast, may influence confidence, classroom-management knowledge, professional routines, and adaptability. Because these variables may operate differently across educational contexts, their effects should be examined empirically rather than assumed.

The Iranian EFL context provides a particularly important setting for this investigation. Iranian high-school English teachers work within a centralized educational system in which curriculum coverage, examination performance, classroom management, and institutional expectations strongly influence teaching practices. In online education, these responsibilities are accompanied by challenges related to internet quality, access to devices, learner participation, assessment integrity, and teachers' familiarity with digital platforms. Although previous Iranian research has examined instructors' perceptions of technology integration (Ashrafzadeh & Sayadian, 2015) and the dimensions of EFL teachers' pedagogical competence (Aghajanzadeh Kiasi, 2022), limited attention has been devoted to teachers' perceptions of how anxiety affects specific aspects of their

online pedagogical competence. There is consequently a need for contextually grounded instruments capable of representing the instructional, technological, emotional, and professional concerns experienced by Iranian high-school EFL teachers.

A rigorous investigation of this issue also requires an appropriate measurement framework. Because perceived anxiety-related effects on pedagogical competence may involve several interrelated dimensions, exploratory multivariate procedures can be used to identify the underlying structure of questionnaire items and reduce a large set of observed variables to a smaller number of meaningful components (Tabachnick & Fidell, 2013). Combining quantitative measurement with qualitative interviews can further clarify how teachers interpret their anxiety, how it affects lesson planning, classroom management, instructional methods, professional development, and online assessment, and why particular demographic or professional differences may emerge. Such an approach can produce findings that are both statistically interpretable and grounded in teachers' lived professional experiences.

Understanding the relationship between anxiety and online pedagogical competence has implications for teacher education, educational administration, and professional development. Interventions should not be limited to teaching platform operation; they should integrate technological skills, online instructional design, assessment literacy, classroom-management strategies, emotional coping, self-efficacy development, and opportunities for guided practice. Institutional measures should likewise provide reliable infrastructure, accessible technical assistance, realistic workloads, peer collaboration, and psychologically supportive professional environments. By identifying the areas of pedagogical competence that teachers perceive as most vulnerable to anxiety, education authorities can design more targeted training and support systems that strengthen both teacher well-being and instructional quality.

Accordingly, the aim of this study was to examine Iranian high-school EFL teachers' perceptions of the effect of online teaching anxiety on their pedagogical competence and to determine whether these perceptions differed according to gender, teaching experience, and university degree.

2. Methods and Materials

2.1. Design of the Study

This study used a mixed-methods design. It made use of a questionnaire followed by a quantitative interpretation of the obtained findings based on an exploratory factor analysis (EFA), and a semi-structured interview followed by a qualitative interpretation of the results with the objective of identifying the items of TOPCA among the EFL teachers. Therefore, the study favored a descriptive design.

2.2. Participants

The present research utilized three different groups of participants. The first group consisted of 240 high school teachers who participated for carrying out explanatory factor analysis (EFA) chosen out of two hundred and ninety readily available Iranian English language teachers at high schools in Guilan Province considering the oral report issued by the Office of Educational Groups, English department, affiliated to Education Administration Office located in Rasht, Guilan Province. The participants were of both genders with an average age of 38.5 and an average of 14.5 years of pedagogical experience while their degrees at university were B.A., M.A. candidates, M.A., Ph.D. candidates, and Ph.D. holders in the fields of English Language Teaching, English Literature, English Translation, and Linguistics. These groups of participants were used for the validation of the research instrument, the TOPCA questionnaire.

The second sample population included one hundred and twenty English language teachers teaching English in Guilan Province with the same demographic information as the first group. This group was selected for evaluating the teachers' perceptions of online pedagogical competences with regard to their anxiety. The third sample population included 10 teachers with the same demographic characteristics chosen randomly for carrying out a semi-structured interview on teachers' perceptions about the effect of their anxiety on their pedagogical competence in online teaching.

2.3. TOPCA Questionnaire

A researcher-developed questionnaire was used according to the literature and other English-related studies. This was done to investigate the high school EFL teachers' perceptions of TOPCA. It contained 47 items, but it was validated through factor analysis (FA) so that the final version of TOPCA questionnaire had 43 items. Two parts were consisted in the questionnaire. The first part stated

some sentences on the demographic issues. The items in this part gathered data on the gender, teaching experience years, and university degrees of participants. The second part that was the main section included closed-ended items rated on a 5-point Likert scale (strongly agree) to 5 (strongly disagree).

2.4. Interview

Then, a semi-structured interview was conducted by the researchers. The researchers planned a semi-structured interview for teachers who took part in this step of the research. The interview questions were planned upon the TOPCA questionnaire and the related items to each one. Thus, the researchers used a list of four questions on fairly specific topic related to the TOPCA; however, the interviewees had a lot of ways to answer them. The interview, through flexibility, involved a degree of structure, but there were some opportunities for teachers to pursue the topics of their particular interest.

2.5. Data Collection Procedure

To figure out the data gathering details and the operations of analysis, the researchers pursued the following phases to cover the purpose of the present research. Teachers were selected from Guilan province, which was broken into North, East, West, and South, based on the probability sampling method, stage cluster sampling. From each cluster, the researchers selected eight towns in a city as a sample (thirty-two towns) within which four high school were randomly selected. Then, the researcher randomly selected two or three English language teachers teaching English in the school. Two hundred and forty selected teachers were from boys' schools and girls' schools.

To maintain face and content validity, the researchers developed a preliminary form and invitation card related to the content and face validity, and rewrite the items. Next, they checked the content validity of TOPCA questionnaire by demanding the reviews from seven academic persons who were considered as TEFL teachers, scholars, and teachers.

2.6. Piloting the questionnaire

The questionnaire was piloted to a sizeable and representative number (sixty-five) of high school English language teachers during a routine school meeting. Then, its last form was completed. The total Cronbach's alpha achieved for the questionnaire was .926 demonstrating that

the questionnaire had an acceptable reliability. Having piloted the questionnaires, the researchers administered it to two hundred and ninety high school English language teachers. However, only 240 filled out the questionnaires completely and correctly.

2.7. Explanatory factor analysis

Carrying out an Explanatory Factor Analysis (EFA) on TOPCA questionnaire required the researchers to do extraction. It was based on eigenvalues and/or the inspection of a scree-plot, a rotation that specified the nature of the relationship between the factors that is deemed to be correlated (oblique) or uncorrelated (orthogonal). All these steps were clearly and operationally clarified as the analysis went on. Principal Components Analysis (PCA) as a technique of extraction was used because the researchers can utilize PCA to derive largest variance from the whole set of data with per element by reducing a large number of variables into a smaller number of elements (Tabachnick & Fidell, 2013).

2.8. Teacher interview

The researchers invited thirty (40%) teachers who had participated in the first phase and used Internet and True Random Generator to randomly select them. Nonetheless, ten teachers accepted and participated the interview. A time schedule for the interview was developed. The appointment day and time was arranged in advance with the teachers based on their most convenient time.

The researchers assured that the interview would be performed anonymously and only for the goal of study, and

it would not be displayed anywhere and utilized just for the dissertation. It was also emphasized that no name would be mentioned of interviewees. It took the researchers an average of thirty-five minutes to conduct each interview, and the interviews have been totally lasted for 2 weeks with regard to the time allowed for each interview and the time interval among the interviews based on the appointment time scheduled.

Studying the texts for content analysis and getting codes that were later arranged into themes were involved in the analysis of the interview data (Creswell, 2012). Nevertheless, first, researchers transcribed the interview, and then, invited two colleagues to analyze it. The last steps were the verification and codification of data that were done. For categorical (qualitative) items, an index, named as the Cohen's Kappa, was run to account the proportion of coding accordance till a quantitative measure of the magnitude of agreement could be given between raters by it. The Kappa reached was 0.88, and it indicated an acceptable agreement as it was between 0.81-0.99.

3. Findings and Results

Table 1 shows the demographic descriptions of the participants in the first phase of the research for developing TOPCA questionnaire. The second sample population included one hundred and twenty English language teachers practicing teaching English in Guilan province with the same demographic information as the first group. The descriptive statistics are shown in Table 1.

Table 1

Descriptive Statistics of TOPCA Items

N of Items	Variance	Maximum/ Minimum	Range	Maximum	Minimum	Mean
47	.424	2.918	3.091	4.703	1.611	4.223

Table 1 shows that the overall means and variance of items are 4.22 and 4.24. The minimum score is 1.61 and the maximum score is 4.70.

The sample size was 240 respondents for 47 items, a ratio of 5.1 per item which corresponded to the sampling size criterion. Hence, the researchers used Kaiser-Meyer-Olkin (KMO) sampling adequacy and the Bartlett's Test of Sphericity (BTS). For all 47 items, the KMO sampling adequacy test statistic was 0.764, which was higher than the

threshold value of 0.5. The BTS statistic was 4537.426, well over 0.05. Thus, the test results supported satisfactory characteristics for administering factor analysis.

According to Child (2006), in the observed variables, the communality is the variance which becomes accounted for by a common variance, and the variance is parallel with the square of the factor loadings. The extraction communalities indicate that the larger the communalities extracted, the better the variables are displayed. If each of extraction

communalities is very small (smaller than 0.5), the extraction is better to be removed.

Just like the cumulative variance described by all items, the final variance describes the variance described by per item.

According to total variance explained for TOPCA, 13 variables possessed an eigenvalue of more than 1 and were maintained for analysis. Component 13 explained 3.155% of the factors' variance, and the 13 elicited items were able to adjust 67.858% of the factors' variance changeability.

Otherwise, about 67.8% of the variance in the items was described by the 13 elicited variables in the variables of TOPCA.

Having finished this stage, the researchers calculated the item matrix of rotated factors that involved the factor stores of each variable in the carrying items. Table 2 shows the rotated item matrix by utilizing PCA with varimax rotation. The displayed gaps on the tables act as loadings that are less than 0.5. All loadings that were less than 0.5 were exempted by the researchers.

Table 2

Rotated Component Matrix for TOPCA

Items (variables)	Components			
	1	2	3	4
carrying out a plan of lesson to make my language pedagogy active.	.916			
maintaining regularity and self-mastery.			.587	
Motivating learners to learn English.			.649	
having fun within English language classrooms.	.642			
understanding the requirement to update my pedagogical capability.		.674		
Teaching learners according to their level of language proficiency.		.510	.504	
using English properties that make learning easier.	.563		-.607	
exchanging different pedagogical background to my colleague.		.657		
planning learners' free learning to use variations in English language pedagogy.		.511		
using different techniques in my pedagogy.			.668	
reviewing the taught materials at the end of session.				.632
communicating with learners to make their language learning better.			.694	
simplifying complicated materials for my learners.	.645			
attending in-service classes to make my language capabilities better.			-.657	
implementing constant evaluations.		.625		
Respecting the social place of the English language teacher.			.692	
Informing my learners about the goals of language learning.			-.591	
testing just the taught materials in class.			-.630	
providing learners with homework.		.755		
keeping the learners' archives to pursue their learning.		.735		
assessing the levels of language proficiency according to their performance in class.			.724	
recognizing the place of English in the world.	.854			
encouraging bashful learners to come in language activities.	.885			
updating my English language pedagogical capabilities by participating in in-service classes.	.543	.515		
using teaching tools in my classes.	.534			
Seeking information by studying different journal articles, participating in conferences, etc.		.513		
adopting logical pedagogical methods.	.588			
preparing learning materials for all learners.				.593
being accustomed with English language exercises.	.640			
Being knowledgeable of the subject.		.591		
using resources to prepare learners with the required materials.			.697	
paying enough attention to all learners.			.734	
maintaining a competitive atmosphere in my classes		.562		
providing English language-related homework for learners.		.532		
encouraging learners to put their problems in my classes.			.612	
preparing required English language subjects for learners.			.519	
encouraging pair-work.	.596			
analyzing learners' scores to modify my language pedagogy.	.786			

allowing learners to participate in my English language classrooms.	.649
being accustomed with the correct use of English pedagogical materials.	.530
preparing films for pedagogical goals.	.794
being fascinated in learners' achievement.	.658
taking an impressing sample concerning English language teaching.	.687

It seems that the variables tended to form the variables of TOPCA covered to all four components with nearly good factor coverings ranging from .504 to .916 for all variables. Most of the factors loaded fell in the middle range of .600 to nearly over .800 indicating high factor loadings for TOPCA. However, variables 3, 13, 19, and 37 never covered any of the four components, which resulted in their omissions. The results of PCA with varimax rotation showed that the variables intended to form TOPCA variables reduced to be 43 of the initial 47 variables. The value of Cronbach's alpha

reached was .93 for TOPCA questionnaire which stated the reliability of the instrument.

According to the participants' responses, the means and standard deviations of the questionnaire items were computed. They provided clues about which items would be useful and which items would not.

As shown in Table 3, the means and standard deviations were reported to be 4.23 and 0.12 for male teachers and 4.16 and 0.13 for female teachers.

Table 3

Variance Analysis of TOPCA and Teachers' Gender

TOPCA	df	Sum of Squares	Mean of Square	F	Sig.
Gender	2	1.51	0.051	0.142	0.709
Error	118	13.680	0.116		
Total	119	13.731			

According to results in Table 3, the F statistics is 0.142 and the probability value is 0.709. There was not a statistically significant difference at the $p < .05$ level in TOPCA scores for the gender groups: $F(2, 118) = 0.14, p = 0.7$.

The means and standard deviations were reported to be 4.26 and 0.12 for the teachers in Teaching field, 4.00 and

0.08 for Translation field, 4.60 and .12 for Linguistics field, and 3.91 and 0.61 for teachers in Literature field. The probable difference between teachers' different branches of study and their perception of TOPCA was investigated. The analysis results are exhibited in Table 4.

Table 4

The Results of Variance Analysis of TOPCA and Teachers' Branches of Study

TOPCA	df	Sum of Squares	Mean of Square	F	Sig.
Fields of Study Error	4	2.539	0.846	0.456	0.789
Total	116	11.192	0.311		
	119	13.731			

As observed, the F statistics is 0.456 and the value of probability is 0.789. Hence, the statistics of frequency is smaller than the value of probability, the hypothesis is affirmed in a significant level $\alpha = 5\%$. There was not a statistically significant difference at the $p < .05$ level in

TOPCA scores for the teachers' three fields of study: $F(4, 116) = 0.45, p = 0.7$.

The means and standard deviations were reported to be 3.98 and 0.29 for the BA holders, 4.06 and 0.31 for the MA candidates, and 4.32 and 0.18 for MA holders, 4.25 and 0.14 for PhD candidates, and 4.19 and 0.13 for PhD holders. A one-way between-groups analysis of variance was

administered to explore the teachers' anxiety in online classes affecting their TOPCA with regard to their university degrees (Table 5).

Table 5

The Results of Variance Analysis of TOPCA and Teachers' University Degrees

TOPCA	df	Sum of Squares	Mean of Square	F	Sig.
University Degree	5	0.128	0.064	0.174	0.841
Error	115	13.603	0.368		
Total	1199	13.731			

The F statistics (0.174) is smaller than the probability value (0.841). There was not a statistically significant difference at the $p < .05$ level in TOPCA scores for the teachers' university degrees: $F(5, 115) = 0.17, p = 0.8$.

The means and standard deviations were reported to be 4.32, 4.59, 4.78 3.21, 3.89, and 3.12 for the six groups of

teachers based on their years of teaching experiences, from 1-5 to over 26, respectively. The result of a one-way between-groups analysis of variance carried out on the teachers' anxiety in online classes affecting their pedagogical competence with regard to their teaching experiences are shown in Table 6.

Table 6

The Results of Variance Analysis of TOPCA and Teachers' Experiences

TOPCA	df	Sum of Squares	Mean of Square	F	Sig.
Teaching experiences	6	4.359	1.090	4.070	*0.008
Error	114	9.372	0.268		
Total	119	13.731			

The frequency statistics is 4.070, and the value of probability is 0.008. As far as the frequency statistics is bigger than the value of probability, the hypothesis is rejected at a significant level $\alpha = 5\%$. That is, there was a statistically significant difference at the $p < .05$ level in TOPCA scores for the six groups of teaching experiences: $F(6, 114) = 4.07, p = .000$.

In answering "Do you prepare differently in your online teaching?", most interviewees (81%) reported full use of a written lesson plan. However, some teachers (42%) reported using oral lesson plan. These teachers mentioned that they kept a program in mind as they taught the book with mostly the administration in the same school for a long time. These teachers believed that they did not need to keep a written copy of the lesson plan. the majority of younger teachers (92%), however, believed that preparing a lesson plan was a critical means for regular class education. They were anxious that lack of a lesson plan might disturb their class time and cause them not to cover the specified materials.

In answering the question "Do you like to update your teaching methods and techniques for your online teaching?", most of the newly-employed teachers (78%) believed that it is seriously necessary to update their pedagogical knowledge of English language teaching. Based on their view, it needs participating in different conferences and reading their published articles. According to 79% of teachers' view, participating in different regular regional workshops would be beneficial. Besides, these teachers were worried that they possessed difficulty in English comprehension, both in speaking and writing. Some of them (27%) even believed it was better for them to participate in a different private communication classroom to improve their ability.

Concerning online classroom management and its challenges, the more-experienced teachers mentioned better levels of efficacy. Nonetheless, the less-experienced teachers admitted lower skills in classroom management. More than half of the teachers (54%) viewed that it was a necessity to engage learners in a study and simultaneously, control their discipline and order. When it was asked "Is it a challenge", more than half of the teachers, (55%) disagreed

that they consumed their energy and time on managing learners rather than the English-related pedagogy.

In answering the question "*Do you follow any assessment policy in online evaluation of your students?*", most of the teachers (82%) reported that their programs, decisions and practices were impacted by their pedagogical ways. Moreover, they were worried that online assessment techniques of assessing students would not be practical. Only 18% believed that online assessment of the students would be efficient considering the learners' needs and the goals of learning stated by the administration. Thus, the majority of the interviewees presumed that it is a necessity to plan for dealing with these kinds of problem in the future.

Answering the first research question asking "*How is Iranian EFL teachers' pedagogical competence affected by online teaching anxiety?*", it was found teachers expressed concerns about several issues related to TOPCA. They were anxious that lack of lesson plan would disturb their time in class and cause them not to cover the specified materials completely. Moreover, in managing the classes, the younger teachers were worried about their management skills of the classrooms and that they devoted their time and energy to manage learners, more than the pedagogical process.

Regarding TOPCA and gender, and to answer the second question asking if *there is any statistically significant difference in the perceived levels of anxiety about the pedagogical competence in online teaching between Iranian male and female high school EFL teachers*, it can be claimed that Iranian high school EFL teachers of both genders did not perceive TOPCA in different manners because the p-value (0.709) was higher than the significance level (0.05).

With regard to TOPCA, the analysis of teachers' teaching experiences showed that teachers of different years of teaching experiences have a different view of TOPCA, for the p-value (0.008) was less than the F-statistic (4.070). In addition, since the F statistics was greater than the probability value in the analysis of TOPCA and teachers' teaching experiences, the third research question of the study that asked if *there is any statistically significant difference in the perceived levels of anxiety about the pedagogical competence in online teaching among Iranian high school EFL teachers of different teaching experiences*, was rejected at the significance level.

Finally, answering the fourth question, based on different university degrees and branches, the EFL teachers did not consider TOPCA in a different manner. This was confirmed by the report of the analysis that the F statistics (0.174) was smaller than the probability value (0.841) and there was not

a statistically significant difference at the level of $p < .05$ in TOPCA scores for the teachers' university degrees. Thus, the fourth question stating if *there is any statistically significant difference in the perceived levels of anxiety about the pedagogical competence in online teaching among Iranian high school EFL teachers of different university degrees* was answered at a significant level $\alpha = \%5$.

4. Discussion and Conclusion

The present study examined Iranian high-school EFL teachers' perceptions of the effect of online teaching anxiety on their pedagogical competence. It also investigated whether these perceptions differed according to gender, teaching experience, university degree, and field of study. The quantitative findings, supported by the interview data, showed that teachers generally perceived anxiety as an influential factor in several areas of online pedagogical competence. Their concerns were particularly related to lesson planning, classroom management, updating teaching methods, maintaining learner participation, and conducting valid online assessment. The findings further indicated that teachers' perceptions did not differ significantly according to gender, university degree, or field of study. However, a statistically significant difference was found among teachers with different levels of teaching experience. Taken together, these results suggest that online teaching anxiety is experienced across different demographic and academic groups, while the extent and form of its perceived influence may vary according to teachers' accumulated professional experience.

Regarding the first research question, the findings showed that Iranian EFL teachers perceived online teaching anxiety as affecting several dimensions of their pedagogical competence. The interview findings indicated that teachers were concerned that inadequate lesson planning could disrupt the timing and organization of online classes and prevent them from covering the required instructional content. Younger and less-experienced teachers appeared especially worried about maintaining order, engaging learners, and allocating sufficient time to language instruction rather than dealing primarily with classroom-management problems. Teachers also expressed concerns about their ability to update their teaching methods, use appropriate online resources, and assess learners accurately. These findings demonstrate that anxiety in online education is not restricted to technical apprehension; rather, it affects

teachers' perceptions of their ability to perform fundamental pedagogical functions.

This result is consistent with the view that pedagogical competence encompasses planning, instructional implementation, classroom management, assessment, learner support, and professional development (Aghajanzadeh Kiasi, 2022). When teachers feel anxious about technological breakdowns, time management, learner disengagement, or assessment reliability, their confidence in these areas may decrease. The result also aligns with evidence that EFL teachers' pedagogical competence and readiness are essential for maintaining effective curriculum implementation (Firman et al., 2019). Online instruction requires teachers to translate conventional pedagogical knowledge into a different instructional environment, and anxiety may make this transition more demanding by reducing teachers' willingness to experiment, adapt, or employ unfamiliar strategies.

The findings are also supported by research on remote teaching anxiety among EFL teachers. Previous evidence has identified inadequate technological knowledge, uncertainty about online classroom management, unstable internet connections, reduced learner interaction, assessment difficulties, and increased preparation demands as major sources of anxiety among language teachers (Akbara & Dikilitas, 2022). These concerns closely resemble those reported by the participants in the present study. In particular, teachers' anxiety about lesson planning and online assessment reflects uncertainty over whether traditional pedagogical routines can be transferred effectively to virtual environments. Because language teaching depends on interaction, immediate feedback, participation, and continuous monitoring, the reduced visibility of learners in online classrooms may intensify teachers' doubts about the effectiveness of their teaching.

The participants' concerns can additionally be interpreted through the relationship between emotions, motivation, and professional functioning. Teachers' emotional states during emergency remote teaching have been found to influence their motivation, well-being, and capacity to remain engaged in instructional activities (Panadero et al., 2022). Anxiety may consume cognitive resources that would otherwise be used for lesson organization, monitoring learner understanding, providing feedback, and adapting instruction. Conversely, teachers who experience positive emotions and stronger motivation may be more likely to interpret online teaching difficulties as manageable professional challenges. The finding that the participants

considered anxiety influential in their pedagogical performance is therefore compatible with the wider literature emphasizing that teacher well-being is closely related to instructional quality.

The teachers' concerns regarding technological use and online instructional procedures are also compatible with technology-acceptance research. Teachers' adoption of digital technology is influenced by perceived usefulness, perceived ease of use, attitudes toward technology, and confidence in using technological systems (Scherer et al., 2019). When online platforms are perceived as difficult, unreliable, or incompatible with pedagogical objectives, anxiety may increase and technology use may become more restricted. Earlier research similarly showed that teachers' adoption of technology is influenced by prior experience, professional preparation, and contextual support (Aldunate & Nussbaum, 2013). Thus, the participants' anxiety may have reflected not only individual psychological characteristics but also their previous opportunities to develop online teaching skills and receive institutional assistance.

The interview findings further showed that many teachers were interested in updating their pedagogical knowledge through workshops, conferences, journal articles, and additional language-development courses. This result suggests that teachers recognized professional learning as a means of reducing anxiety and strengthening competence. The relationship between digital competence and effective technology-supported teaching has been reinforced by recent evidence showing that teachers with stronger digital competence are more capable of integrating technological tools into pedagogical processes (Yurdakul & Demir, 2025). Similarly, teachers' willingness to use advanced educational systems is affected by teaching efficacy, anxiety, trust, and goal orientation (Wang et al., 2025). Accordingly, anxiety may decrease when teachers gain practical mastery of technological tools and perceive that these tools support, rather than obstruct, their instructional goals.

The present findings concerning anxiety and pedagogical competence may also be explained through teacher self-efficacy. Teachers who believe that they can manage online instruction, solve technical problems, engage learners, and assess learning effectively are more likely to approach online teaching with confidence. Research conducted during the pandemic demonstrated that teachers' emotions, beliefs, and self-efficacy were closely associated with one another (Nicolosi et al., 2023). Similarly, stronger teacher self-efficacy was found to be particularly important when

teachers returned to instructional duties under uncertain pandemic conditions (Pressley, 2021). The concerns reported in the present study may therefore represent situations in which teachers perceived a mismatch between the demands of online teaching and their available pedagogical or technological resources.

Another important finding concerned online assessment. Most interviewed teachers were worried that online assessment might not provide a valid representation of students' actual learning. This concern is understandable because online assessment limits teachers' direct supervision of learners and may introduce uncertainty regarding learner independence, test security, technical access, and the interpretation of performance. Technology-enhanced language teaching can provide diverse assessment and feedback opportunities, but its success depends on the pedagogically appropriate use of digital tools (Shadieff & Yang, 2020). Teachers who have not received sufficient preparation in online assessment may consequently rely on conventional testing procedures that are poorly suited to virtual environments, thereby increasing their anxiety and reducing confidence in their assessment competence.

Regarding the second research question, no statistically significant difference was found between male and female teachers in their perceptions of the effect of anxiety on online pedagogical competence. This result suggests that the demands of online teaching were experienced similarly by both genders in the investigated context. Online lesson planning, learner engagement, classroom management, technological use, and assessment constitute common professional responsibilities, regardless of gender. Therefore, anxiety associated with performing these responsibilities may be more strongly related to teachers' professional preparation and working conditions than to gender itself.

The absence of a significant gender difference is consistent with research showing that teachers' pedagogical emotions and well-being during emergency remote teaching were shaped by shared professional demands (Panadero et al., 2022). It also suggests that technology-related anxiety should not automatically be considered a gender-specific issue. Teachers' acceptance and use of educational technology depend on multiple factors, including perceived usefulness, ease of use, access, confidence, pedagogical beliefs, and institutional support (Scherer et al., 2019; Tondeur et al., 2017). When male and female teachers work within the same educational system and face similar

technological and instructional challenges, their perceptions may converge.

Nevertheless, the lack of a gender difference should not be interpreted as evidence that male and female teachers necessarily experience identical sources of stress. Pandemic-related stress was influenced by health concerns, occupational uncertainty, family responsibilities, and broader social pressures (Taylor et al., 2020). Female teachers may have faced additional domestic or caregiving demands, whereas male teachers may have encountered other culturally shaped expectations. However, such differences may not have been sufficiently strong to produce statistically distinguishable overall scores on the measure used in this study. The result therefore indicates similarity in the perceived effect of anxiety on pedagogical competence rather than complete equivalence in the lived experience of anxiety.

The third research question concerned teaching experience, and the findings showed a statistically significant difference among teachers with different levels of experience. This was the only professional background variable that significantly differentiated teachers' perceptions. The interview results suggested that less-experienced teachers were more concerned about classroom management, lesson organization, and the possibility of spending excessive time controlling learners rather than teaching English. More-experienced teachers, by contrast, appeared to have greater confidence in managing instructional routines and maintaining learner involvement. This finding indicates that accumulated teaching experience may function as a professional resource that shapes how teachers interpret and manage anxiety-provoking situations.

The result is consistent with the argument that practical experience contributes to the development of pedagogical competence. The duration and quality of pedagogical practice have been shown to support the development of pre-service teachers' instructional competencies (Shahini, 2025). Experience allows teachers to develop routines, recognize common classroom problems, anticipate learner responses, and make faster instructional decisions. These competencies may reduce uncertainty in online teaching, even when teachers are not fully familiar with specific digital technologies. Experienced teachers may also be better able to distinguish between essential and nonessential instructional problems and may possess a broader repertoire of strategies for adapting lessons when technical or pedagogical difficulties occur.

At the same time, the relationship between experience and online teaching anxiety may not be entirely linear. Teachers with extensive conventional teaching experience may possess strong pedagogical knowledge but limited familiarity with digital environments. In contrast, younger teachers may be more comfortable with technological devices but less experienced in classroom management and assessment. Technology adoption research indicates that prior experience with technology, rather than teaching experience alone, influences teachers' acceptance and use of digital tools (Aldunate & Nussbaum, 2013). Therefore, the significant difference found in this study may reflect an interaction between general teaching experience, technological familiarity, professional confidence, and exposure to online instruction.

The finding can also be interpreted in light of coping strategies. Language teachers' coping responses during the conversion to online teaching were associated with stress, well-being, and negative emotions (MacIntyre et al., 2020). More-experienced teachers may have developed more effective problem-focused coping strategies, such as reorganizing instructional materials, seeking assistance, modifying activities, or establishing clear classroom routines. Less-experienced teachers may have had fewer tested strategies available and may consequently have interpreted online difficulties as more threatening. This interpretation supports the need for differentiated professional-development programs that address the distinct needs of novice, mid-career, and highly experienced teachers.

No statistically significant differences were found according to university degree or field of study. These findings suggest that holding a higher academic degree or specializing in English teaching, translation, linguistics, or literature did not necessarily protect teachers from anxiety concerning online pedagogical competence. Academic qualifications may provide theoretical knowledge, disciplinary expertise, and research skills, but they may not include practical preparation for online classroom management, digital assessment, or technology-mediated interaction. Consequently, teachers with different degrees may face similar concerns when required to teach through unfamiliar digital platforms.

This finding reinforces the distinction between academic knowledge and context-specific pedagogical competence. Effective online teaching requires practical integration of content, pedagogy, and technology. Teachers' concerns about technology integration have been linked to the

perceived compatibility of digital tools with teaching practices and institutional expectations (Ashrafzadeh & Sayadian, 2015). Similarly, teachers' pedagogical beliefs influence whether technology is used to support active learning or merely to reproduce traditional instructional routines (Tondeur et al., 2017). Academic degree alone may therefore be insufficient to predict online teaching confidence unless degree programs include sustained technology-supported pedagogical practice.

The absence of degree-related differences also supports the need to provide continuous professional development to all teachers rather than assuming that teachers with advanced qualifications require less support. Emergency online education required teachers across academic levels to adapt rapidly, often without adequate preparation (Dhawan, 2020; Johnson et al., 2020). Furthermore, maintaining instructional effectiveness during a crisis depends on flexibility, realistic expectations, and a constructive professional mindset rather than academic credentials alone (Merrill, 2020). Thus, teachers at all qualification levels may benefit from systematic preparation in online pedagogy, assessment, interaction, and emotional coping.

The findings should also be considered in relation to technostress and teacher well-being. Persistent exposure to unfamiliar technologies, increased workload, and constant connectivity can produce psychological strain. Positive technology approaches emphasize that supportive, usable, and psychologically informed technological environments can reduce technostress (Brivio et al., 2018). Teachers' physical activity and mental health were also adversely affected during pandemic lockdowns, illustrating that occupational anxiety occurred within a wider disruption of daily life and well-being (Aperribai et al., 2020). Because resilience is inversely related to burnout among teachers, strengthening teachers' personal and organizational resources may help prevent anxiety from developing into longer-term emotional exhaustion (Ismail et al., 2020).

Finally, the findings support a broader conception of teacher education as a responsibility to prepare teachers for changing social and instructional environments. Teacher education should encourage critical reflection, professional agency, and responsiveness to learners rather than concentrating exclusively on technical procedures (Berchini, 2017; Carter et al., 2018). For nonnative EFL teachers, this preparation should also address language-related apprehension, because speaking anxiety may remain present even among practicing teachers (Pinar, 2025). Online environments may intensify such concerns by increasing the

visibility or recordability of teachers' language performance. Overall, the study demonstrates that anxiety and pedagogical competence are interconnected and that effective online teaching depends on the integration of technological preparation, pedagogical expertise, emotional support, and practical experience.

The study had several limitations. First, the participants were high-school EFL teachers from Guilan Province, which limits the generalizability of the findings to teachers in other provinces, educational levels, institutional settings, and national contexts. Second, convenience and availability considerations influenced participant recruitment, and the sample may not fully represent the diversity of Iranian EFL teachers. Third, the principal findings were based on teachers' self-reported perceptions rather than direct classroom observations or objective evaluations of pedagogical performance. Consequently, participants' responses may have been influenced by social desirability, memory limitations, or personal interpretations of anxiety. Fourth, only 10 teachers participated in the interviews, restricting the range of qualitative experiences represented. Fifth, the cross-sectional design did not permit examination of changes in anxiety and pedagogical competence over time. Finally, the questionnaire measured the perceived effect of anxiety and therefore could not establish a causal relationship between anxiety and actual teaching competence.

Future studies should recruit larger and more geographically diverse samples from different Iranian provinces and include teachers working in primary schools, secondary schools, universities, and private language institutes. Longitudinal research could examine whether teachers' anxiety decreases as they gain online teaching experience or increases under prolonged technological and occupational demands. Researchers should also use classroom observations, performance-based assessments, teaching portfolios, and learner evaluations to complement self-report data. Further qualitative studies with larger samples could explore the distinct experiences of novice, mid-career, and experienced teachers. Future research should additionally examine potential mediators and moderators, such as digital competence, teacher self-efficacy, institutional support, coping strategies, workload, internet quality, and prior experience with educational technology. Experimental studies could evaluate the effectiveness of professional-development interventions designed to reduce anxiety and strengthen online pedagogical competence.

Educational authorities, school administrators, and teacher educators should provide continuous professional development that combines technological training with online lesson planning, classroom management, learner engagement, and assessment literacy. Training should be practical, differentiated according to teachers' experience levels, and supported by opportunities for guided practice and peer feedback. Schools should ensure access to reliable platforms, technical assistance, clear instructional policies, and realistic workload expectations. Mentoring systems could pair less-experienced teachers with colleagues who possess stronger classroom-management and online teaching skills. Teachers should also be offered psychological support, stress-management education, and opportunities to discuss common concerns without fear of professional judgment. Pre-service teacher-education programs should incorporate sustained online teaching practice so that future teachers develop confidence in technology-supported instruction before entering full-time professional roles.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all participants for agreeing to record the interview and participate in the research.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

All procedures performed in studies involving human participants were under the ethical standards of the institutional and, or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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