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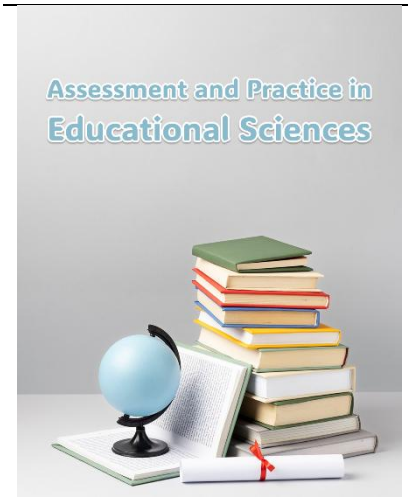

Understanding the Motivation–Anxiety Interface Through the Lens of Control–Value Theory: Evidence from Iranian Intermediate EFL Learners

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ABSTRACT

This study aimed to examine the predictive relationship between English learning motivation and speaking anxiety among Iranian intermediate EFL learners, drawing on Pekrun's (2006) *Control–Value Theory of Achievement Emotions*. The theory posits that learners' emotions—such as anxiety—arise from the perceived value of learning outcomes and the degree of control they feel over achieving them. A total of 110 intermediate EFL learners from two Iranian language institutes completed the *Attitude/Motivation Test Battery (AMTB)* and the *Foreign Language Classroom Anxiety Scale (FLCAS)*. Data were analyzed through Spearman's rho correlation and simple linear regression using SPSS 27. Results revealed a strong positive correlation between motivation and speaking anxiety ($\rho = .666$, $p < .001$), with motivation significantly predicting 42.3% of the variance in anxiety scores ($R^2 = .423$). Findings were interpreted through the lens of the Control–Value Theory, suggesting that highly motivated learners may experience increased anxiety in exam-oriented, teacher-centered contexts where their perceived control is limited. Pedagogical implications highlight the importance of fostering learners' autonomy and perceived control to sustain motivation while reducing anxiety during oral performance tasks. The findings highlight the importance of enhancing learners' autonomy and perceived control to prevent motivation from escalating speaking anxiety. These findings suggest that supporting learners' autonomy and perceived control during oral tasks is essential to sustaining motivation while reducing speaking anxiety.

Keywords: motivation, speaking anxiety, Iranian learners, EFL, AMTB, FLCAS, Control–Value Theory, exam-oriented / teacher-centered Environments

Introduction

In recent years, the field of English as a Foreign Language (EFL) has witnessed profound pedagogical and psychological transformations, largely driven by technological innovation, cognitive-affective research, and the rapid integration of artificial intelligence (AI) into instructional practices. Within this evolving landscape, **motivation** and **anxiety** have emerged as two of the most critical affective variables influencing learners' engagement, performance, and emotional experience in EFL learning environments. Motivation determines the intensity and persistence of learners' efforts, whereas anxiety—particularly speaking anxiety—often functions as an inhibiting force that constrains language production and communicative confidence. The delicate balance between these two psychological forces has been long debated, and the advent of AI-enhanced classrooms has introduced new dimensions to their interaction, necessitating a deeper understanding of how emotional and motivational mechanisms operate under conditions of heightened technological mediation and performance pressure (1-3).

Motivation has consistently been identified as one of the most powerful predictors of language achievement. It encompasses the learner's drive, desire, and effort to attain proficiency and communicative competence in the target language (4, 5). Classic theoretical models, such as Gardner's socio-educational framework and Dörnyei's *L2 Motivational Self System*, conceptualize motivation as a multifaceted construct involving both integrative and instrumental orientations. The integrative dimension reflects the learner's desire to connect with the culture and people of the target language, while the instrumental dimension represents pragmatic incentives such as educational and professional advancement (6, 7).

Recent empirical studies have advanced this understanding by demonstrating that motivation is not static but dynamic, varying across contexts, learning tasks, and instructional modalities. Learners' motivational levels fluctuate depending on the perceived relevance, autonomy, and enjoyment associated with the learning experience. In particular, the introduction of AI-based platforms and interactive digital tools has transformed motivation from a purely internal psychological drive into a multidimensional construct influenced by technological interactivity and perceived digital self-efficacy (1, 2, 8). AI-driven classrooms, with their capacity for personalized feedback, instant assessment, and adaptive learning trajectories, have been shown to increase learners' engagement and intrinsic motivation by providing a sense of autonomy and immediate accomplishment (9, 10). However, while technology-enhanced environments may strengthen motivation, they can also heighten learners' performance pressure, introducing a new type of anxiety associated with automated evaluation and peer comparison (11, 12).

The affective outcomes of motivation are also shaped by learners' psychological capital—comprising self-efficacy, optimism, and resilience—which mediates between motivational intention and academic engagement (5). When learners perceive themselves as capable and autonomous, motivation becomes a reinforcing force that facilitates positive emotional experiences. Conversely, when learners attribute success or failure to uncontrollable factors such as teacher bias, peer comparison, or AI algorithms, motivation may transform into a source of stress and emotional exhaustion. This dual nature of motivation underscores the importance of theoretical frameworks capable of capturing both its facilitative and debilitating effects within emotionally charged educational settings.

Anxiety has been a central topic in second language acquisition (SLA) research since the seminal work of Horwitz and colleagues, who conceptualized *foreign language classroom anxiety* as a situation-specific phenomenon characterized by tension, apprehension, and fear of negative evaluation. Among its various forms, *speaking anxiety*—the unease associated with oral communication in the target language—has been consistently identified as the most debilitating (13-15). It interferes with learners' cognitive processing, diminishes working memory capacity, and hinders speech fluency, resulting in avoidance behaviors and lowered willingness to communicate (16, 17).

Empirical studies reveal that EFL learners often report higher anxiety in oral performance than in other modalities, such as reading or writing, due to the immediacy of communication and fear of public failure (18, 19). In collectivist contexts such as Iran and Iraq, where public performance is socially significant, learners' self-presentation concerns amplify the emotional cost of speaking. Additionally, institutional emphasis on grades, examinations, and accuracy-oriented evaluation exacerbates anxiety, creating environments where even highly motivated students experience psychological strain (14, 20).

Speaking anxiety is particularly acute in online or technology-assisted classrooms, where learners must navigate both linguistic and digital competencies simultaneously. Studies show that EFL learners often experience ambivalent emotions toward AI-assisted speaking tasks—while the novelty and interactivity enhance engagement, the perceived surveillance and real-time feedback can intensify stress (11, 12). As such, the technological mediation of communication introduces new affective complexities, requiring instructors to strike a balance between promoting motivation and minimizing anxiety.

The present study adopts Pekrun's *Control–Value Theory of Achievement Emotions (CVT)* as its conceptual lens, a framework that has profoundly influenced research on emotional dynamics in educational psychology (17, 21, 22). The CVT posits that achievement emotions—such as enjoyment, pride, and anxiety—arise from learners' appraisals of *control* (the perceived ability to influence learning outcomes) and *value* (the subjective importance of the task or outcome). When learners perceive high value but low control, anxiety becomes the dominant emotional response. Conversely, when both control and value are perceived as high, positive activating emotions like enjoyment and pride emerge (23, 24).

This theoretical lens has been widely applied to second language learning contexts, elucidating the emotional antecedents of motivation, engagement, and performance (16, 25). Within this model, motivation and anxiety are not independent; they dynamically interact through the learner's control–value appraisals. A highly motivated learner who values English learning but feels little control over oral performance—due to limited linguistic competence or fear of negative judgment—will likely experience heightened anxiety. On the other hand, learners who perceive strong control over their performance are more likely to translate motivation into confidence and achievement.

In the Iranian EFL context, this framework is particularly relevant because educational settings are often characterized by exam-oriented instruction, teacher-centered pedagogy, and limited opportunities for authentic communication (26, 27). Under such conditions, learners' perceived control is frequently constrained, while the value of English proficiency remains exceedingly high, creating a fertile ground for anxiety. The CVT thus provides a comprehensive framework for examining how learners' motivational drives interact with their emotional experiences in performance-intensive contexts.

Recent research has revealed that AI-powered tools are reshaping the emotional and motivational landscape of EFL learning. These tools—ranging from intelligent tutoring systems and chatbots to automated speech recognition—can enhance learners' engagement, autonomy, and enjoyment (9, 10). For instance, studies have shown that AI-integrated speaking platforms improve pronunciation accuracy and foster self-regulated learning behaviors (1, 2). However, these innovations also raise concerns about emotional overload, evaluation anxiety, and cognitive fatigue, as learners may experience heightened performance pressure when interacting with adaptive algorithms that provide immediate corrective feedback (3, 11).

The dual nature of AI's impact aligns with the core tenets of the Control–Value Theory: when learners perceive technology as a supportive tool enhancing control, they experience enjoyment and curiosity; when they perceive it as an evaluative agent beyond their control, anxiety dominates. This pattern has been confirmed by studies highlighting that EFL learners' emotional responses in AI-mediated classrooms fluctuate between excitement and apprehension, depending on how the system is framed and used (8, 28).

AI-based language learning also introduces new motivational constructs such as *digital self-authenticity* and *current L2 self*, which mediate learners' acceptance of online language learning environments (26). Moreover, AI-driven platforms can enhance learners' self-efficacy and perseverance when appropriately aligned with individualized learning goals (29). However, when such tools are used in rigid, assessment-oriented ways, they may inadvertently magnify anxiety by amplifying learners' fear of error visibility and digital judgment. The emotional ambivalence observed in AI-enhanced classrooms thus reflects the broader psychological tension between motivation and anxiety identified in traditional EFL research.

The relationship between motivation and anxiety has been described as *Janus-faced*, with the potential to both facilitate and hinder language learning (16, 21). Motivated learners invest substantial effort and attention, but this same investment can render them vulnerable to anxiety when their expectations exceed their perceived control. In high-stakes educational cultures such as Iran's, where English proficiency is equated with academic and social capital, learners often experience this paradox acutely (6, 26).

Empirical research in Middle Eastern EFL contexts supports this interpretation. For instance, Iranian and Kurdish learners have reported that strong academic motivation coexists with elevated anxiety during oral tasks due to fear of negative evaluation and perfectionism (15, 20). Similarly, students' goal orientations and self-expectations have been found to mediate their emotional responses, with performance-oriented motivation leading to higher anxiety levels (27). Meanwhile, contextual factors such as teacher feedback style, classroom climate, and peer competition influence how motivation translates into emotional experiences (5, 7).

Cross-cultural comparisons also indicate that learners' motivational and affective profiles vary according to cultural values surrounding achievement and self-expression. In collectivist societies, where conformity and academic prestige are emphasized, motivated learners often internalize external expectations, leading to higher levels of controlled motivation and anxiety (18, 19). Conversely, in autonomy-supportive environments, learners' intrinsic motivation tends to enhance enjoyment and reduce anxiety, reinforcing the reciprocal relationship between perceived control and emotional well-being (24, 28).

Understanding the motivation–anxiety interface through the Control–Value Theory framework offers important pedagogical insights. First, it underscores that motivation cannot be treated as uniformly beneficial; its adaptive or maladaptive outcomes depend on the learner's perceived control and the emotional climate of the classroom (16, 17). Teachers must therefore cultivate autonomy-supportive environments where learners feel empowered to take risks without fear of punitive evaluation (26, 30).

Second, as AI technologies become more prevalent, instructors must integrate them in ways that enhance rather than undermine learners' sense of agency. This requires balancing technological precision with human empathy, ensuring that feedback is perceived as formative rather than judgmental. Studies suggest that when AI-based feedback is combined with supportive teacher mediation, learners exhibit greater emotional regulation, perseverance, and satisfaction (2, 3).

Finally, this perspective highlights the need for comprehensive teacher training in emotional pedagogy. Educators should be equipped to recognize signs of speaking anxiety, differentiate between facilitating and debilitating motivation, and implement strategies that build learners' confidence through goal-setting, reflection, and gradual exposure to communicative risk (13, 29). Creating such psychologically safe environments is particularly crucial in exam-oriented societies, where the social stakes of language learning are intrinsically high.

Despite extensive research on motivation and anxiety in second language learning, relatively few studies have explored their predictive relationship in the context of Iranian EFL learners through the lens of Control–Value Theory. The rapid expansion of AI-assisted and online learning environments has further transformed learners' emotional experiences, yet the motivational and affective implications of these technologies remain insufficiently understood (1, 3, 11). This study therefore seeks to integrate classical affective constructs with contemporary digital learning dynamics to provide a holistic understanding of how motivation predicts speaking anxiety within this sociocultural and technological context. Accordingly, the aim of the present study is to examine the predictive relationship between English learning motivation and speaking anxiety among Iranian intermediate EFL learners through the framework of the Control–Value Theory of Achievement Emotions, thereby illuminating how motivational intensity interacts with perceived control and value appraisals to shape learners' emotional experiences in technologically mediated and traditional classrooms.

Methods and Materials

Research Design

A correlational research design was adopted to examine the relationship between English language learning motivation and speaking anxiety among Iranian intermediate-level EFL learners. This design is appropriate as it investigates the degree and

direction of association between two continuous psychological constructs without any experimental manipulation. Such an approach allows understanding the natural covariation between motivation and speaking anxiety as they occur in real educational settings, without intervening or altering participants' learning conditions.

Participants

The study sample consisted of 110 Iranian EFL learners recruited using non-random, convenience sampling method from two language institutes in the cities of Arak and Borujerd, as well as undergraduate students from Arak University and Ayatollah Borujerdi University. The sample was balanced in terms of gender, comprising 55 males and 55 females, with ages ranging from 18 to 28 years (M = 22.3, SD = 2.5). Participants were classified as intermediate-level learners based on instructors' professional judgment, which was informed by their textbook level, class performance, and communicative competence. Although standardized placement tests were not employed, all instructors had over five years of EFL learning experience and were familiar with CEFR-aligned criteria. The balanced gender distribution and specified age range aimed to enhance the representativeness and generalizability of the findings within the target population.

Instruments

English Language Learning Motivation: Motivation was measured using the Persian version of Gardner's Attitude/Motivation Test Battery (AMTB), adapted by Papi and Abdollahzadeh (2012), which has demonstrated strong psychometric properties in Iranian EFL contexts. The AMTB includes 30 items rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), assessing both integrative and instrumental motivation dimensions, such as enjoyment, instrumental value, integrative orientation, self-confidence, and persistence. Sample items include:

- "I enjoy learning English."
- "Knowing English is important for my future career."

In this study, the instrument demonstrated excellent internal consistency reliability, with a Cronbach's alpha coefficient of 0.91.

Speaking Anxiety: Speaking anxiety was assessed using the Persian-adapted version of the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al. (1986). The FLCAS consists of 33 items rated on a 5-point Likert scale, targeting nervousness, fear of negative evaluation, and apprehension related to speaking English in the classroom. Sample items include:

- "I feel nervous speaking English in class."
- "I worry about making mistakes when I speak English."

The scale showed high reliability in this study, with a Cronbach's alpha of 0.93, indicating excellent internal consistency.

The AMTB and FLCAS were chosen due to their strong theoretical grounding and their widespread use in EFL research in Iran. These tools have demonstrated reliability and contextual validity in studies involving Iranian learners, making them appropriate instruments for the current research. The Persian versions of AMTB and FLCAS were adapted from Papi & Abdollahzadeh (2012) and Horwitz et al. (1986), with permission from the original authors.

Procedure

Data collection took place over a two-week period during scheduled English classes. Questionnaires were administered in a paper-and-pencil format by the researcher during scheduled classes, who provided clarifications when necessary but did not

influence participants' responses. Each participant took approximately 15 to 20 minutes to complete both questionnaires. Responses that were incomplete or inconsistent were excluded from the final dataset, resulting in 110 valid questionnaires for analysis. Ethical considerations were strictly observed, including obtaining informed consent from all participants prior to data collection. Ethical approval was obtained from relevant authorities.

Data Analysis

The dataset comprising responses from 110 Iranian intermediate EFL learners was analyzed using IBM SPSS Statistics version 27. Descriptive statistics including mean, standard deviation, skewness, and kurtosis were calculated for two key variables: motivation (measured by AMTB) and speaking anxiety (measured by FLCAS) (see Table 1). Both variables demonstrated slight negative skewness and moderate kurtosis, suggesting some deviation from normality that warranted further investigation.

To rigorously assess the normality assumption, Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted (Table 2). Both tests revealed statistically significant deviations from normality for motivation and speaking anxiety scores ($p < .05$). Considering the sample size ($N = 110$) and the well-documented robustness of non-parametric statistical techniques under such conditions (Field, 2013), Spearman's rank-order correlation was selected to examine the relationship between motivation and speaking anxiety.

Following the correlation analysis, a simple linear regression was performed to evaluate the predictive capacity of motivation on speaking anxiety. Prior to conducting the regression analysis, key assumptions—linearity, homoscedasticity, independence of residuals, and normality of residuals—were thoroughly checked using diagnostic tools including residual histograms, Q-Q plots, and scatterplots of residuals against predicted values (Figures 1–3). These diagnostics confirmed that all assumptions were satisfactorily met, thus supporting the validity of the linear regression model.

Findings and Results

Descriptive analysis revealed that the mean motivation score among participants was 4.31 (SD = 0.45), while the mean speaking anxiety score was 4.06 (SD = 0.61) (Table 1). Skewness statistics were -0.929 for motivation and -0.865 for anxiety, and kurtosis values were 1.146 and 0.744, respectively. These values suggest a slightly non-normal but acceptable distribution for the variables, supporting the use of further inferential analyses.

Table 1. Descriptive Statistics for Motivation and Speaking Anxiety

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
Motivation	110	2.77	5.00	4.30	0.45	-0.92	0.23	1.14	0.45
Anxiety	110	2.06	5.00	4.06	0.60	-0.86	0.23	0.74	0.45

Note. N = number of participants; SD = standard deviation. All scores were measured on a 5-point Likert scale (converted to 100-point indices).

Both Kolmogorov-Smirnov and Shapiro-Wilk tests indicated significant violations of the normality assumption for motivation and speaking anxiety ($p < .05$) (Table 2). These results justified the use of non-parametric correlation methods in the subsequent analysis.

Table 2. Tests of Normality for Motivation and Speaking Anxiety

Variables	Test	Statistic	df	Sig.
Motivation	Kolmogorov-Smirnov	0.115	110	0.001
Anxiety	Shapiro-Wilk	0.943	110	0.000

Kolmogorov-Smirnov	0.089	110	0.031
Shapiro-Wilk	0.949	110	0.000

Note. N = 110. *p < .001.

Spearman's rank-order correlation coefficient demonstrated a strong, positive, and statistically significant association between motivation and speaking anxiety ($r = 0.666$, $p < 0.001$) (Table 3). These results indicate a counterintuitive yet statistically robust link between increased motivation and heightened speaking anxiety in this context. Contrary to some previous assumptions that higher motivation may alleviate anxiety, this finding suggests that, within this sample, increased motivation is associated with higher levels of speaking anxiety, indicating a complex emotional interplay in the language learning process. A 95% confidence interval for the correlation coefficient was [.52, .77], indicating a strong effect size.

Table 3. Spearman Correlation Matrix Between Motivation and Speaking Anxiety

Variables	Motivation	Anxiety
Motivation	1.00	**0.66
Anxiety	**0.66	1.00

Prior to conducting the regression analysis, key assumptions—linearity, homoscedasticity, independence of residuals, and normality of residuals—were thoroughly checked using diagnostic tools including residual histograms, Q-Q plots, and scatterplots of residuals against predicted values (Figures 1–3). These diagnostics confirmed that all assumptions were satisfactorily met, thus supporting the validity of the linear regression model.

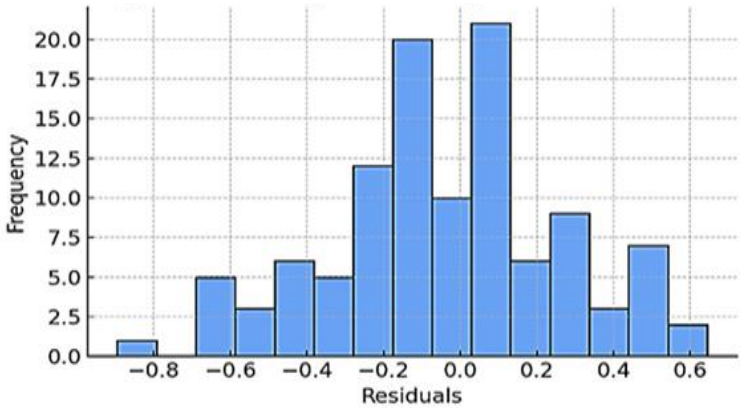

Figure 1. Histogram of Regression Residuals

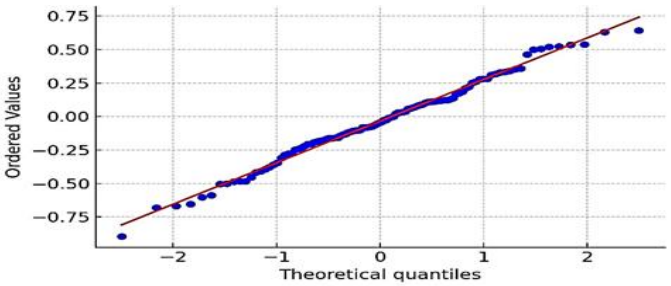

Figure 2. Normal Q-Q Plot of Residuals

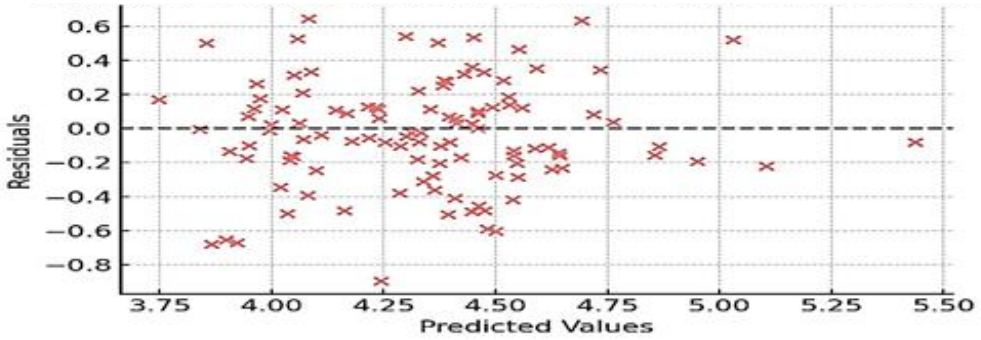

Figure 3. Scatterplot of Residuals vs. Predicted Values

Table 4. Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.34	4.76	4.30	0.29	110
Residual	-1.16	1.04	0.00	0.34	110
Std. Predicted Value	-3.29	1.54	0.00	1.00	110
Std. Residual	-3.38	3.05	0.00	0.99	110

Note. Dependent variable: Speaking Anxiety. $R^2 = .423$, $F(1, 108) = 74.03$, $p < .001$.

A simple linear regression was conducted to examine the predictive effect of motivation on speaking anxiety. The model was statistically significant, $F(1, 108) = 79.30$, $p < 0.001$, explaining approximately 42.3% of the variance in speaking anxiety ($R^2 = 0.423$) (Table 5).

The unstandardized regression coefficient ($B = 0.482$, $SE = 0.054$) indicates that for every one-unit increase in motivation, speaking anxiety increases by about 0.48 units. The standardized coefficient ($\beta = 0.651$) confirmed the positive and substantial strength of this relationship, with a significant t-value ($t = 8.905$, $p < 0.001$). The 95% confidence interval for the unstandardized coefficient B (0.482) ranged from 0.37 to 0.59.

Table 5. Regression Coefficients Predicting Speaking Anxiety from Motivation

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	0.65a	0.42	0.41	0.34	
Anova	**Sum of Squares**	**Df.**	**Mean Square**	**F**	**Sig.**
Regression	9.34	1	9.34	79.30	0.00
Residual	12.72	108	0.11		
Total	22.07	109			
Coefficient	**B**	**SE**	**β**	**t**	**p**
(Constant)	-	-	-	-	-
Motivation	0.482	0.054	0.651	8.905	< 0.001

Dependent Variable: Speaking Anxiety

All regression assumptions were checked; residuals were normally distributed, homoscedastic, and independent (Durbin–Watson = 1.98). No multicollinearity was detected (VIF < 2).

Regression assumptions were evaluated through residual analysis. The histogram (Figure 1) and Q-Q plot (Figure 2) of residuals indicated approximate normality. The scatterplot of residuals against predicted values (Figure 3) showed no evidence of heteroscedasticity or non-linearity. Standardized residuals ranged between -3.38 and 3.06, indicating the absence of significant outliers.

The findings of the present study revealed a robust and statistically significant positive correlation between English language learning motivation and speaking anxiety among Iranian EFL learners. Regression analysis further substantiated that motivation serves as a significant positive predictor of speaking anxiety, explaining approximately 42% of the variance in anxiety scores. These results underscore the intricate interplay between motivational and affective variables in second language acquisition, indicating that heightened motivation does not necessarily mitigate anxiety. Instead, under certain contextual and individual conditions, increased motivation may coincide with elevated speaking anxiety, highlighting the need for a more nuanced understanding of affective dynamics in language learning contexts.

Discussion and Conclusion

The results of the present study revealed a statistically significant and strong positive relationship between English learning motivation and speaking anxiety among Iranian intermediate EFL learners. The correlation coefficient ($\rho = .666$, $p < .001$) and regression analysis ($R^2 = .423$) demonstrated that motivation positively predicted 42.3% of the variance in speaking anxiety. This finding, though seemingly paradoxical, highlights the complex emotional interplay that defines second language acquisition, particularly in exam-oriented, teacher-centered, and high-pressure educational environments. From the perspective of the *Control–Value Theory of Achievement Emotions* (CVT), these results suggest that learners who place high subjective value on language achievement but perceive limited control over their performance experience greater anxiety (17, 21, 22).

At first glance, the finding that higher motivation corresponds to higher speaking anxiety may seem counterintuitive, given that motivation is typically associated with positive learning outcomes and sustained engagement (6, 7). However, this result becomes theoretically coherent when viewed through the CVT framework. According to this model, achievement emotions—such as enjoyment, pride, or anxiety—arise from the interplay between control and value appraisals. Learners who highly value English proficiency but feel limited control over achieving success are prone to experience anxiety rather than enjoyment (23, 24). In the Iranian context, where educational success in English is closely tied to socioeconomic mobility, learners may internalize immense performance pressure. Thus, their strong motivational drive may paradoxically intensify their anxiety, as high value is coupled with perceived low control (26, 27).

This finding aligns with previous research demonstrating that motivation can function as a double-edged sword in language learning. For instance, (16) argued that motivation energizes learners' commitment but can also lead to emotional vulnerability when coupled with self-imposed perfectionism. Similarly, (31) emphasized that motivated learners often experience greater anxiety due to heightened fear of failure and social comparison. Studies among EFL learners in Middle Eastern contexts corroborate this duality: learners who display strong integrative or instrumental goals often report elevated anxiety levels during oral tasks, particularly in evaluative or public settings (15, 20). The results of this study thus support the notion that motivation and anxiety are dynamically intertwined emotional constructs rather than independent traits.

Moreover, the finding resonates with contemporary perspectives that link motivation to emotional ambivalence in technology-enhanced classrooms. Recent investigations into AI-powered EFL environments demonstrate that learners' enthusiasm toward AI-mediated feedback systems often coexists with anxiety about real-time assessment and error visibility (1, 3, 11). According to (2), AI-driven feedback can heighten motivation through interactivity and personalization, but it may simultaneously provoke anxiety by reinforcing external evaluation pressure. These observations underscore the CVT principle that emotions are context-sensitive responses shaped by learners' perceptions of control and value in the learning environment.

The positive association between motivation and speaking anxiety found in this study is consistent with earlier empirical findings in similar sociocultural contexts. The current study extends existing insights by providing quantitative evidence of the predictive power of motivation on anxiety within the Iranian EFL context, thus offering empirical support for theoretical

frameworks emphasizing motivational ambivalence. Additionally, (16) and (25) confirmed that motivation and anxiety are not merely oppositional but coexist as interactive variables moderated by learners' perceived control and value orientations.

Cross-cultural research reinforces this interpretation. Studies conducted among Chinese, Jordanian, and Indonesian EFL learners have shown similar emotional patterns, indicating that motivation can either alleviate or exacerbate anxiety depending on contextual factors such as teacher behavior, learning environment, and social norms (8, 13, 14, 29). In collectivist societies like Iran, academic achievement and social approval are deeply interconnected, amplifying learners' fear of public mistakes. The perception of speaking English as a status marker further heightens anxiety, as failure to perform competently in public settings is often equated with personal inadequacy (5, 6).

Additionally, studies examining online and hybrid EFL learning environments have revealed that digital platforms can intensify emotional fluctuations. (12) observed that Iranian learners participating in Clubhouse speaking tasks experienced increased anxiety despite higher motivation levels, primarily due to the public and evaluative nature of online discourse. Likewise, (10) found that AI-based chatbots improved speaking fluency but simultaneously elevated learners' anxiety compared to peer interactions. Such results underscore that technological mediation can magnify emotional contradictions by introducing new dimensions of surveillance and immediacy. Therefore, the current study's findings are consistent with broader evidence that motivation, when paired with perceived lack of control, can amplify performance-related anxiety in both traditional and digital EFL contexts.

From a theoretical perspective, the findings of this study advance understanding of the motivation–anxiety interface by empirically validating the propositions of the *Control–Value Theory of Achievement Emotions*. According to (17), anxiety is a negatively activating emotion that emerges when learners appraise achievement activities as highly important but perceive their control as insufficient. In this study, Iranian EFL learners displayed precisely this pattern: they valued English mastery for its academic and social rewards but simultaneously perceived oral communication as a high-risk, low-control endeavor. The resulting anxiety reflects an imbalance between motivational aspiration and perceived competence.

This interpretation aligns with (24), who demonstrated that teachers' emotional climate and leadership styles influence students' control-value appraisals, thereby shaping their affective experiences. In EFL classrooms, where teacher-centered pedagogy and evaluative feedback dominate, learners' control appraisals tend to diminish. Consequently, motivation—rather than functioning as a buffer against anxiety—may act as a catalyst for emotional strain. The present study thus highlights that enhancing motivation without addressing learners' sense of control may inadvertently intensify anxiety.

Furthermore, the study substantiates recent findings on the mediating roles of digital self-authenticity, self-efficacy, and learner autonomy in AI-based learning environments. (26) demonstrated that EFL learners' digital self-concept significantly influences how motivation translates into emotional experiences during online language learning. Similarly, (29) found that self-efficacy mediates the relationship between motivation and academic achievement, suggesting that learners who believe in their ability to regulate performance experience lower anxiety. These findings reinforce the argument that motivational enhancement should be accompanied by pedagogical strategies aimed at fostering autonomy and emotional regulation.

Cultural and institutional factors play a decisive role in shaping the relationship between motivation and anxiety. The Iranian EFL system is characterized by centralized curricula, summative assessments, and hierarchical classroom interactions, all of which constrain learners' perceived control (5, 27). Students often associate English proficiency with success in international examinations and social mobility, intensifying the emotional stakes of language learning (30). These socioeducational pressures align with findings from (19) and (18), who found that learners' academic buoyancy and reflective thinking mitigate anxiety only when institutional climates support self-assessment and learner autonomy.

Within such constrained environments, motivated learners often adopt performance-oriented goal structures, focusing on outcomes rather than mastery. This orientation amplifies fear of failure, creating a feedback loop where increased motivation heightens anxiety, which in turn undermines performance and self-efficacy. The CVT framework effectively captures this dynamic, as learners' appraisals of value (importance of success) remain high, while perceptions of control (ability to succeed) are low (21, 22). This theoretical model thus provides a robust explanatory basis for the present study's results, situating them within a culturally grounded understanding of emotional experiences in EFL learning.

The coexistence of strong motivation and heightened speaking anxiety presents a major challenge for language educators. Teachers must recognize that motivation, while indispensable for persistence, may also generate emotional tension if learners' control beliefs remain underdeveloped (16). Therefore, instructional practices should aim not only to enhance learners' motivational intensity but also to strengthen their perceived control and emotional resilience. Moreover, positive teacher–student interactions that emphasize progress and effort over accuracy can buffer against anxiety by reframing errors as part of the learning process. (24) noted that emotionally supportive leadership enhances teachers' and students' well-being alike, reinforcing the reciprocal relationship between emotional climate and learning outcomes.

Integrating AI tools should also be approached with caution and empathy. While these technologies can personalize instruction and increase engagement, their evaluative precision can also heighten learners' self-consciousness. As (3) and (11) reported, learners often oscillate between enjoyment and anxiety when interacting with AI-powered speaking systems. Educators must therefore ensure that AI feedback remains formative, emphasizing progress rather than error detection. Combining automated systems with human guidance can preserve the motivational benefits of technology while mitigating its anxiety-inducing aspects (2, 8).

Overall, the findings of the present study contribute to the growing body of evidence that the relationship between motivation and speaking anxiety is complex, nonlinear, and context-dependent. The positive correlation between these constructs underscores the need to conceptualize motivation not solely as a facilitator but also as a potential emotional stressor under conditions of low perceived control. By applying the *Control–Value Theory of Achievement Emotions*, this study illuminates how learners' motivational intensity interacts with their control appraisals to shape affective experiences in both traditional and AI-mediated classrooms. The results reaffirm that fostering balanced emotional environments—where learners feel both motivated and in control—is essential for sustainable language learning outcomes.

This study is not without limitations. The sample consisted solely of Iranian intermediate EFL learners selected through convenience sampling, which restricts generalizability. The cross-sectional design prevents causal inferences about the directionality of the motivation–anxiety relationship. Moreover, reliance on self-report instruments such as the AMTB and FLCAS may have introduced response bias. Future studies employing longitudinal, mixed-method, or experimental designs could yield deeper insights into the temporal and contextual dynamics of these affective constructs.

Future research should investigate how motivational and emotional processes evolve over time using longitudinal or diary-based methods. Experimental interventions—such as mindfulness-based training, AI-assisted self-assessment modules, or autonomy-supportive classroom practices—could clarify causal mechanisms underlying the motivation–anxiety link. Researchers might also examine moderating variables such as gender, personality traits, digital literacy, and teacher emotional intelligence to explore individual differences in affective responses.

Educators should prioritize emotional scaffolding alongside motivational enhancement. Classroom activities should combine challenge with achievable goals to build both motivation and control beliefs. Teachers can reduce anxiety by emphasizing formative assessment, providing positive feedback, and creating supportive peer interaction frameworks. In AI-enhanced classrooms, educators should integrate human mediation to contextualize automated feedback and maintain

psychological safety. Training programs for teachers should include emotional literacy and anxiety management strategies to balance learners' motivational drive with their emotional well-being.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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