

Motivation and Anxiety in Iranian EFL Learning: Direct and Moderating Effects on Behavior, Attitude, and Conceptions

Fereshteh Abdi¹ , and Masoud Neysani²  

1. Department of English Language and Literature, University of Tehran, Tehran, Iran. E-mail: Fereshtehabdi20@gmail.com

2. Corresponding author: Department of English Language and Literature, Yazd University, Yazd, Iran,. E-mail: 40301675@stu.yazd.ac.ir

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ABSTRACT

Objective: This study investigated the direct effects of student motivation on language learning behavior, attitude toward language learning, and students' conceptions of learning, as well as the moderating role of foreign language anxiety in these relationships within Iranian EFL classrooms.

Methods: A quantitative research design employing a correlational approach was utilized. The participants were 66 undergraduate students enrolled in EFL courses at a private institution in Zanzan, Iran, selected through convenience sampling. Structural equation modeling using SmartPLS 3 was employed.

Results: The results revealed that motivation had a significant positive effect on both conceptions of learning and behavioral effort, but a negative effect on attitude toward language learning. Foreign language anxiety demonstrated a complex moderating role: it significantly strengthened the relationship between motivation and attitude and between motivation and effort, while showing no significant moderating effect on the motivation-conceptions relationship. These findings demonstrate the complex nature of affective factors in language learning and emphasize that anxiety can function both as a motivating factor and as a barrier to learning.

Conclusion: The study provides pedagogical implications for creating supportive learning environments that manage anxiety while fostering intrinsic motivation.

Keywords: Attitude toward language learning, conceptions of learning, foreign language anxiety, language learning behavior, Student motivation

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1. Introduction

Language learning is deeply influenced by several affective factors, particularly motivation, attitude, and anxiety. Research has consistently demonstrated that these variables shape learners' behaviors, engagement, and overall language learning outcomes (Dörnyei, 2001; Gardner, 1985). Among them, motivation is widely regarded as a central determinant of successful L2 learning. It refers to the internal psychological drive that leads individuals to pursue learning goals with persistence and sustained commitment. Within the context of L2 acquisition, motivation encourages learners to engage with the language and continue their efforts despite challenges (Wu, 2022; Kirkpatrick et al., 2024). Given that achieving L2 fluency is demanding (Pourgharib & Shakki, 2024), motivation becomes especially crucial at the university level (Azar & Tanggaraju, 2020). Indeed, motivation and attitude have been repeatedly identified as key predictors of L2 achievement (Jiao et al., 2022; Solhi et al., 2024), with both internal and external factors contributing to learners' ability to develop second language skills (Derakhshan & Shakki, 2024; Tran et al., 2023; Wei & Xu, 2022). Motivation not only fuels learners' desire and effort (Pishghadam et al., 2021) but also strengthens self-confidence and determination in pursuing language-related goals (Jiao et al., 2022).

Foreign language anxiety constitutes another major affective factor influencing L2 learning (Mousavi & Maleki, 2026). Defined as a form of anxiety (Horwitz et al., 1986), FLA often manifests as reduced participation, avoidance behaviors, and diminished confidence in language use (MacIntyre & Gardner, 1991). In Iran, as in many EFL contexts, anxiety remains a pervasive challenge that can interact with motivation, sometimes intensifying its negative consequences and hindering students' engagement with the language. Recent reforms in the Iranian educational system emphasize the need for more interactive and student-centered approaches to language teaching (Alrabai, 2014), making it crucial to understand better how motivation, anxiety, and students' conceptions of learning operate together. Growing interest in the socio-psychological dimensions of language learning, and the connection between learners' personal goals and their broader social context further highlights the importance of examining these affective factors within an integrated framework (Dörnyei & Ushioda, 2011).

1.1 Statement of the Problem

In the Iranian EFL context, learners face several interrelated problems that hinder their language learning. Many learners lack positive attitudes toward language learning, as highly motivated students may still report frustration or dissatisfaction, suggesting that motivation does not automatically translate into positive attitudes (Alrabai, 2014). Learners also tend to hold surface-level conceptions of learning, viewing language learning as memorization and exam preparation rather than as a meaningful process of communication and understanding (Ryan & Deci, 2000).

Additionally, learners experience debilitating anxiety, which manifests as reduced participation, avoidance behaviors, and diminished confidence in language use (Horwitz et al., 1986; MacIntyre & Gardner, 1991), negatively affecting their engagement and achievement (Altamimi, 2023; Pei, 2023). More importantly, motivation and anxiety interact in unclear ways, as anxiety remains a pervasive challenge that can intensify the negative consequences of motivation and hinder students' engagement with the language (Alrabai, 2014). Yet, the moderating role of anxiety on motivation–outcome relationships has not been thoroughly investigated (Dornyei & Ushioda, 2011). The present study addresses these learner-related problems.

1.2 Objectives of the Study

The present study aims to examine the direct effect of student motivation on language learning behavior, attitude toward language learning, and students' conceptions of learning in Iranian EFL classrooms, as well as to investigate the moderating role of foreign language anxiety in these relationships. Specifically, it seeks to address the gap in the Iranian EFL context by exploring how motivation and anxiety interact to shape learners' attitudes, behavioral effort, and conceptions of learning, given that anxiety remains a pervasive challenge that can hinder students' engagement with the language.

The research questions guiding this study are as follows:

RQ1: What is the direct effect of student motivation on language learning behavior, attitude towards language learning, and students' conceptions of learning in Iranian EFL classrooms?

RQ2: How does foreign language anxiety moderate the relationship between student motivation and language learning behavior, attitude towards language learning, and students' conceptions of learning?

2. Review of the Literature

Language learning is a complex process shaped by cognitive, social, and emotional factors. While early research emphasized cognitive elements such as aptitude and memory, recent studies have highlighted affective influences, especially motivation, attitudes, and anxiety, as central determinants of learning success (Dörnyei, 2001; Gardner, 1985). Motivation drives learners to initiate and sustain effort, attitudes reflect their emotional responses toward the language and its learning environment, and anxiety can hinder communication and participation (Horwitz et al., 1986). In foreign language contexts, these affective factors are particularly salient, as learners must take communicative risks and negotiate cultural differences.

2.1 Motivation in Language Learning

Motivation is commonly defined as the internal drive that sustains learning despite challenges (Babaei & Pourhosein Gilakjani, 2025; Schunk et al., 2012). Gardner's (1985) model emphasizes

the social and cultural dimensions of motivation, viewing it as influenced by learners' attitudes and desire to integrate into the target language community. [Dörnyei \(2001\)](#) expanded this view by introducing cognitive and situational components, presenting motivation as dynamic and context-dependent. Research consistently identifies motivation as a major predictor of language proficiency ([Azar & Tanggaraju, 2020](#)). Intrinsic motivation, learning for enjoyment or personal interest, encourages greater persistence, while extrinsic motivation often relates to grades or career goals. Attitudes further interact with motivation: positive attitudes enhance learners' commitment and effort ([Khorsheed, 2021](#); [Shidrah et al., 2022](#); [Wang et al., 2022](#)).

2.2 Foreign Language Anxiety

FLA is a situation-specific form of anxiety characterized by test anxiety, communication apprehension, and fear of negative evaluation ([Horwitz et al., 1986](#)). Recent research highlights emotional, cognitive, and contextual components of FLA ([Derakhshan & Fathi, 2024](#); [Dewaele et al., 2025a](#); [Liu et al., 2023, 2024](#)). Moderate anxiety may sometimes promote effort, yet high anxiety generally hampers performance and fosters negative attitudes ([Alrabai, 2014](#); [Chen, 2022](#)). Learners who worry about poor evaluation or fear mistakes often participate less and report diminished confidence.

2.3 Attitudes toward Language Learning

[Gardner's \(1985\)](#) attitude–motivation model underlines the reciprocal influence between attitudes and motivation. Positive attitudes toward the target language, its speakers, and the learning situation enhance motivation and engagement, whereas negative attitudes discourage persistence ([Dörnyei, 2001](#)). Classroom factors such as teacher support and instructional style also shape learners' attitudes and subsequently their motivation.

2.4 Conceptions of Learning

Students' conceptions of learning, their beliefs about what learning means, offer another important lens. These conceptions range from surface views (memorization and reproduction) to deep views (understanding and integration). Deep conceptions are linked to intrinsic motivation and resilience, whereas surface conceptions tend to correlate with anxiety and avoidance ([MacIntyre & Gardner, 1991](#); [Ryan & Deci, 2000](#)). Empirical studies show that constructivist conceptions support deeper engagement, while surface conceptions focus on short-term outcomes such as exams ([Lonka, 2021](#)). In EFL contexts, [Zheng et al. \(2016\)](#) identified eight conceptions of learning English, from memorizing and testing to application and understanding, each closely tied to self-regulated learning and achievement.

2.5 Empirical Evidence on Affective Factors

Recent research has examined the interplay among affective variables. [Zayed and Al-Ghamdi \(2019\)](#) explored the relationships among anxiety, self-confidence, attitudes, and motivation among university students learning. Their findings indicated significant relationships among most variables, although self-confidence was not significantly related to anxiety. Similarly, [Alamer and Almulhim \(2021\)](#) found that autonomous motivation was negatively associated with language anxiety, whereas controlled motivation showed a positive relationship with anxiety. Using structural equation modeling, [Papi \(2010\)](#) investigated the relationships among anxiety, motivation, and intended learning effort based on [Dörnyei's \(2009\)](#) L2 Motivational Self System. The results indicated that the ideal L2 self and positive L2 learning experiences were negatively related to anxiety. [Lan and Lucas \(2015\)](#) also found that students with more positive attitudes and stronger motivation tended to employ more effective language learning strategies.

Recent studies have also examined the relationships among motivation, attitudes, and other learning factors. [Wang et al. \(2022\)](#) found that motivation intensity positively influenced intrinsic orientation and motivation for learning a second language but negatively affected perceptions of the learning situation. [Peng \(2023\)](#) reported that instrumental orientation, integrative orientation, and students' evaluations of English courses and teachers all positively influenced motivation intensity. Similarly, [Shidrah et al. \(2022\)](#) found that instrumental orientation and attitudes positively influenced learners' desire to learn the language.

[Hermessi \(2023\)](#) examined the relationships among intrinsic orientation, extrinsic orientation, motivation intensity, and L2 academic performance. The results showed that intrinsic orientation positively influenced both motivation intensity and academic performance. In contrast, extrinsic orientation had a negative effect on motivation intensity and only a weak positive impact on performance. [Dorner \(2022\)](#) also found that desire to learn English and integrative orientation positively influenced attitudes toward language learning, while attitudes were negatively related to motivation intensity.

Investigations on motivation and anxiety in second and foreign language acquisition have consistently underscored the intricate relationship between these affective variables and language achievement. [Malik et al. \(2022\)](#) utilized a sequential-explanatory mixed-method approach to investigate various types of motivation integrative, instrumental, intrinsic, and extrinsic discovering no notable disparities in motivation levels between male and female students or between first-year students and juniors. In the context of Ethiopia, [Welesilassie and Nikolov \(2022\)](#) indicated that students regarded their L2 Motivational Self System and foreign language anxiety as being at moderate levels. [Wang et al. \(2023\)](#) investigated the connections between emotions, specifically happiness, anxiety, and boredom, and English proficiency in Chinese EFL learners, revealing notable correlations among these emotional factors.

Kord et al. (2022) established a notable correlation between motivation and anxiety levels in the learning process, whereas Pei (2023) discovered a robust inverse relationship between motivation and anxiety in college students. In a similar vein, Altamimi (2023) indicated a negative relationship between language anxiety and proficiency in foreign languages, highlighting that anxiety serves as an impediment to language acquisition. Rababah and Almwajeh (2024) discovered that female students at Jadara University in Jordan exhibited markedly elevated levels of foreign language anxiety compared to their male peers. These studies collectively highlight the adverse impact of anxiety on language acquisition and its negative correlation with motivation, while simultaneously exposing contradictory results concerning gender disparities in motivational tendencies.

Despite extensive research on motivation, attitudes, and anxiety, relatively limited attention has been given to how these affective factors interact with students' conceptions of learning English, particularly within the Iranian EFL context. Previous studies have shown that anxiety negatively affects learning behavior (Alrabai, 2014; Horwitz et al., 1986), yet few have examined its moderating role in shaping the link between motivation and learning outcomes. Addressing this gap can provide insight into how affective and cognitive variables jointly influence language learning.

3. Methods

3.1 Research Design

This study utilized a quantitative research design with a correlational approach.

3.2 Participants

The participants of this study were undergraduate students currently enrolled in EFL courses at a private institution in Zanjan. The target group consisted of 66 students (both male and female), aged between 18 and 25 years. Participants were selected using convenience sampling.

3.3 Instruments

For this study, Likert-type online questionnaires were developed to assess various affective factors influencing language learning. The questionnaires use a five-point Likert scale. The study employed several well-established instruments to measure learners' psychological and behavioral variables. Students' attitudes toward language learning were assessed using Gardner's (2004) Attitude Motivation Test Battery and Dörnyei and Taguchi's (2010) questionnaire. L2 motivation was measured through Noels' (2003) Language Learning Orientations Scale (LLOS-IEA), which includes subscales for intrinsic motivation, extrinsic motivation, and amotivation. Language anxiety was evaluated using Horwitz et al.'s (1986) Foreign Language Classroom Anxiety Scale. Behavioral effort was measured using items adapted from Gardner et al. (1997) and Dörnyei and Taguchi (2010). Finally, students' conceptions of learning were examined using the Students'

Conceptions of Learning English (COLE) Scale, adapted from [Li et al. \(2013\)](#) and [Zheng et al. \(2016\)](#), which covers dimensions such as memorizing, testing, practicing, applying, communicating, and understanding.

3.4 Procedure

Data for the present study were collected online using Google Forms. After obtaining permission from the private language institution in Zanjan, the survey link was distributed to EFL classes via institutional WhatsApp groups, LMS announcements, and email. Students completed the questionnaire in their own time within a specified window of one to two weeks, using their smartphones or computers.

3.5 Data Analysis

Responses were exported from Google Forms to an Excel file and then imported into statistical software (SPSS) and SmartPLS 3 for analysis. SEM with SmartPLS was used to estimate the direct effects of student motivation. Foreign language anxiety was entered as a moderating variable by creating interaction terms (Motivation $\times$ Anxiety) in the PLS model, and the significance of these interaction paths was tested via bootstrapping.

4. Results

4.1 Descriptive Statistics

Table 1. Descriptive statistics

Variable	Mean	Standard Deviation	Variance	Number of Items
Motivation	70.75	6.75	45.66	18
Attitude	16.37	4.16	17.34	6
Behavioral effort	11.16	1.99	3.98	3
Conceptions of Learning English	96.19	9.00	81.14	27
Anxiety	26.57	4.92	24.21	8

As presented in Table 1, motivation displayed the highest mean score among the variables ($M = 70.75$, $SD = 6.75$). Conceptions of Learning English also yielded a high mean score ($M = 96.19$, $SD = 9.00$). In contrast, behavioral effort demonstrated a lower mean with limited variability ($M = 11.16$, $SD = 1.99$). Finally, attitude toward language learning ($M = 16.37$, $SD = 4.16$) and foreign language anxiety ($M = 26.57$, $SD = 4.92$) both exhibited moderate mean scores.

4.2 Reliability Analysis

Table 2. Reliability statistics

Variable	Cronbach's Alpha	Number of Items	Interpretation
Motivation	0.771	18	
Attitude	0.675	6	
Behavioral effort	0.604	3	
Conceptions of Learning English	0.822	27	
Anxiety	.744	8	

Motivation ($\alpha = 0.771$) and Anxiety ($\alpha = 0.744$) both demonstrated acceptable reliability. Conceptions of Learning English ($\alpha = 0.822$) showed the highest Cronbach's Alpha, indicating excellent reliability. However, Attitude ($\alpha = 0.675$) and Behavioral effort ($\alpha = 0.604$) displayed lower Cronbach's Alpha values.

4.3 RQ1: What is the direct effect of student motivation on language learning behavior, attitude towards language learning, and students' conceptions of learning in Iranian EFL classrooms?

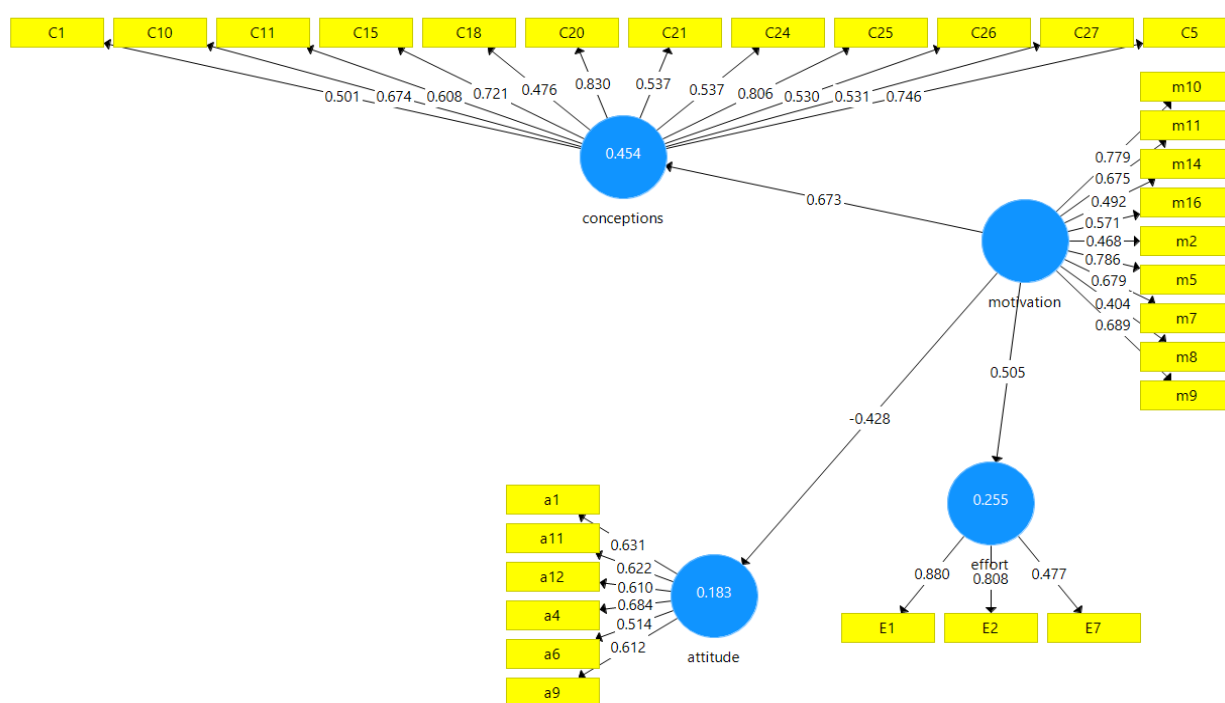


Figure 1. Path diagram: (Standardized estimates)

The path analysis conducted using PLS-SEM provides insights into the direct effects of student motivation on language learning behavior, attitude, and conceptions of learning in Iranian EFL classrooms. The standardized path coefficients (β) from Figure 1 show that motivation has a significant positive effect on conceptions of learning ($\beta = 0.673$). On the other hand, motivation has a negative effect on attitude ($\beta = -0.428$), which may indicate a complex or inverse relationship between motivation and attitude in this context. Furthermore, motivation has a moderate positive effect on behavioral effort ($\beta = 0.505$).

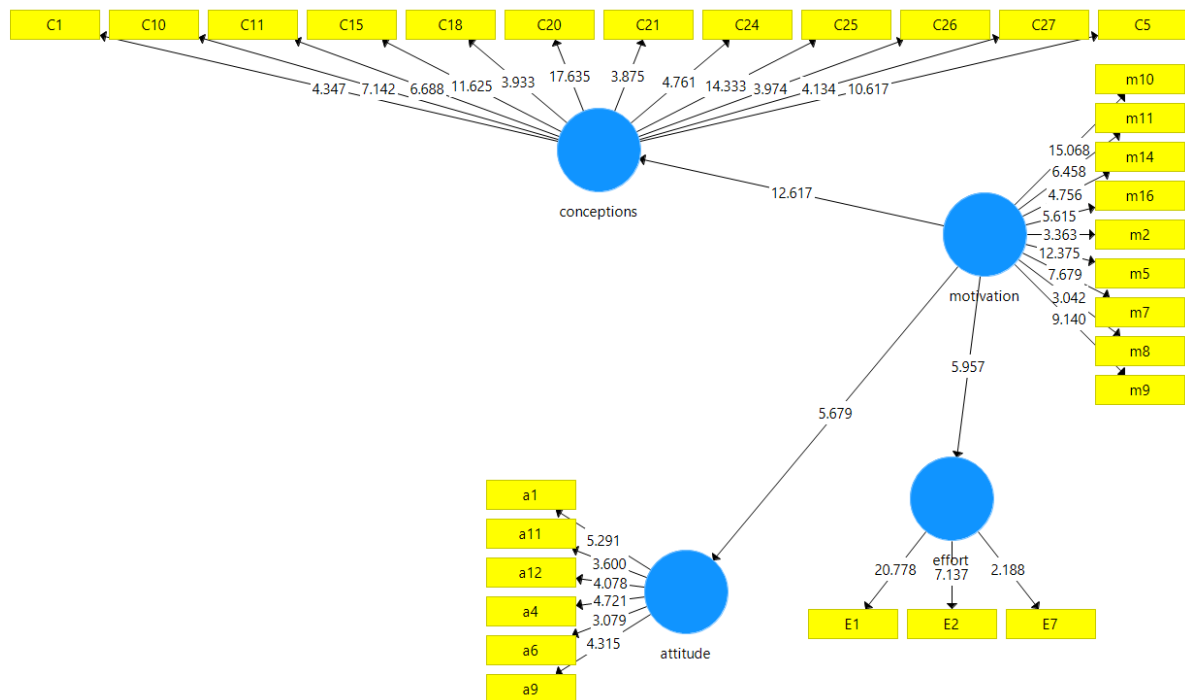


Figure 2. Path diagram: (t-values)

In Figure 2, the t-values further support the statistical significance. The Motivation → Conceptions of Learning path shows a high t-value ($t = 12.61$). The Motivation → Attitude path has a negative coefficient ($\beta = -0.428$) and a t-value ($t = 5.67$). Finally, the Motivation → Behavioral Effort path demonstrates a strong positive relationship with a t-value of 5.95, highlighting that motivation significantly influences students' behavioral effort in language learning.

4.3.1 Measurement Model Evaluation

Table 3. Latent variable correlations

	attitude	conceptions	effort	motivation
attitude	1.000	-0.192	-0.250	-0.428
conceptions	-0.192	1.000	0.555	0.673
effort	-0.250	0.555	1.000	0.505
motivation	-0.428	0.673	0.505	1.000

The Latent Variable Correlations in Table 3 revealed several important relationships. Motivation was found to be negatively correlated with attitude ($r = -0.428$). However, motivation had a strong positive correlation with both conceptions of learning ($r = 0.673$) and effort ($r = 0.505$). Additionally, conceptions of learning and effort were moderately correlated ($r = 0.555$). On the other hand, both attitude and effort were negatively correlated, albeit weakly, with attitude being negatively correlated with both conceptions ($r = -0.192$) and effort ($r = -0.250$).

Table 4. R² and adjusted R² values

	R Square	R Square Adjusted
attitude	0.183	0.170
conceptions	0.454	0.445
effort	0.255	0.243

Table 4 indicates the model's explanatory power for each dependent variable. The R² value for attitude is 0.183 (adjusted R² = 0.170), suggesting that motivation and the other variables explain a small portion of the variance in attitude. In contrast, conceptions of learning had a stronger explanatory power with an R² of 0.454 (adjusted R² = 0.445), indicating that motivation and other factors explain a significant portion of the variance in students' conceptions. Lastly, effort has an R² value of 0.255 (adjusted R² = 0.243), reflecting a moderate level of explanatory power.

Table 5. Construct reliability and convergent validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
attitude	0.673	0.669	0.783	0.377
conceptions	0.861	0.886	0.887	0.405
effort	0.598	0.716	0.777	0.551
motivation	0.799	0.821	0.850	0.396

Motivation ($\alpha = 0.799$) and conceptions of learning ($\alpha = 0.861$) had high reliability. Effort ($\alpha = 0.598$), however, shows a lower Cronbach's Alpha. The Composite Reliability values indicated that all constructs meet the threshold of 0.7.

Table 6. Discriminant validity

	attitude	conceptions	effort	motivation
attitude	0.614			
conceptions	-0.192	0.636		
effort	-0.250	0.555	0.743	
motivation	-0.428	0.673	0.505	0.629

The values on the diagonal represent the square root of the AVE for each construct, showing the degree to which a construct is distinct from the others.

Table 7. Collinearity statistics (VIF Values)

	VIF
C1	1.757
C10	1.608
C11	1.853
C15	2.002
C18	1.337
C20	2.610
C21	1.708
C24	1.698

C25	2.547
C26	1.752
C27	1.735
C5	2.488
E1	1.357
E2	1.344
E7	1.092
a1	1.252
a11	1.399
a12	1.191
a4	1.344
a6	1.112
a9	1.429
m10	2.035
m11	1.526
m14	1.420
m16	1.390
m2	1.577
m5	2.514
m7	2.001
m8	1.525
m9	1.638

All VIF values fall within acceptable ranges, with no values exceeding the commonly used threshold of 5.

4.3.2 Structural Model Evaluation

Table 8. Structural model path coefficients

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
motivation -> attitude	-0.428	-0.482	0.075	5.679	0.000
motivation -> conceptions	0.673	0.701	0.053	12.617	0.000
motivation -> effort	0.505	0.534	0.085	5.957	0.000

Table 8 provides the Structural Model Path Coefficients. The path coefficient for motivation $\rightarrow$ attitude is -0.428 ($t = 5.679$, $p < 0.001$), indicating a statistically significant negative relationship. The path from motivation $\rightarrow$ conceptions of learning had a strong positive coefficient of 0.673 ($t = 12.617$, $p < 0.001$), suggesting a significant positive relationship. Lastly, motivation $\rightarrow$ effort had a positive coefficient of 0.505 ($t = 5.957$, $p < 0.001$).

Table 9. Model fit indices

Fit Index	Value	Threshold	Interpretation
SRMR	0.031	< 0.08	Good Fit
NFI	0.95	> 0.90	Excellent Fit

Table 9 presents the Model Fit Indices. The SRMR is 0.031 , indicating a good fit between the model and the data. Additionally, the NFI is 0.95 , exceeding the threshold of 0.90 , which also indicates excellent model fit.

4.4 RQ2: How does foreign language anxiety moderate the relationship between student motivation and language learning behavior, attitude towards language learning, and students' conceptions of learning?

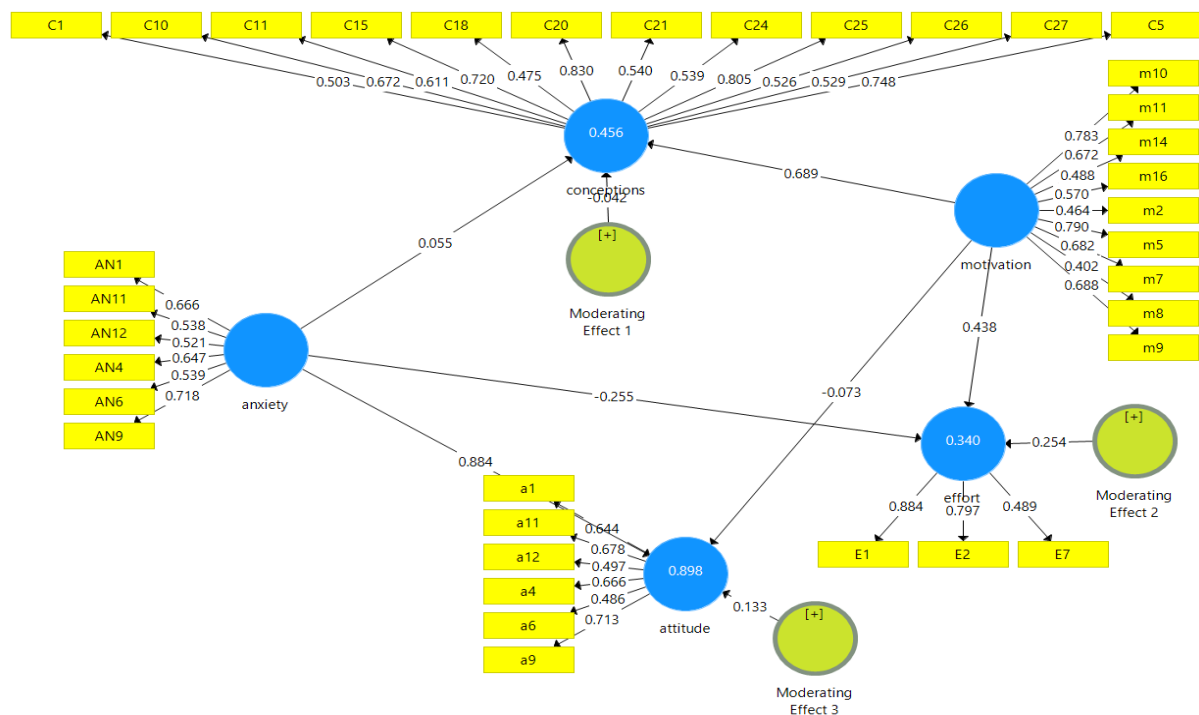


Figure 3. Moderation model: Anxiety as a moderator (Standardized estimates)

The moderation analysis in Research Question 2 examines how foreign language anxiety moderates the relationship between student motivation and key language learning outcomes: attitude, conceptions of learning, and effort. The standardized estimates show that anxiety has a slight positive moderating effect on the relationship between motivation and attitude (Standardized Estimate = 0.133). However, anxiety has a small negative moderating effect on the relationship between motivation and conceptions of learning (Standardized Estimate = -0.042). The moderating effect on effort (Standardized Estimate = 0.254) is positive.

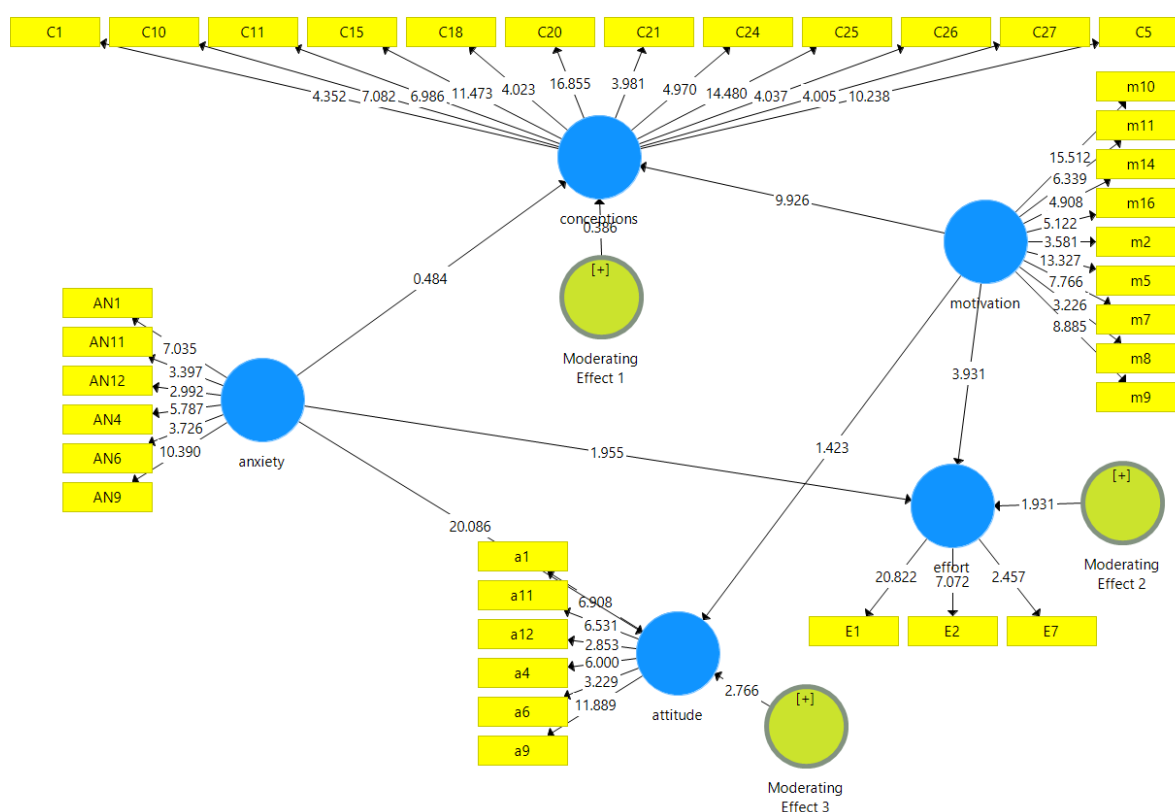


Figure 4. Moderation model: Anxiety as a moderator (t-values)

The t-values in Figure 4 further confirm the statistical significance of these moderation effects. The t-value for Motivation → Attitude ($t = 2.76$) indicates a significant positive moderation. The Motivation → Conceptions of Learning path shows a low t-value ($t = 0.386$). However, the t-value for Motivation → Effort ($t = 1.93$) indicates a moderate but statistically significant moderation.

4.4.1 Measurement Model Evaluation

Table 10. Latent variable correlations for the moderating role of anxiety

	Moderating Effect 1	Moderating Effect 2	Moderating Effect 3	anxie ty	attitu de	concepti ons	effort	motiv ation
Moderating Effect 1	1.000	1.000	1.000	0.231	0.331	-0.096	0.123	-0.104
Moderating Effect 2	1.000	1.000	1.000	0.231	0.331	-0.096	0.123	-0.104
Moderating Effect 3	1.000	1.000	1.000	0.231	0.331	-0.096	0.123	-0.104
anxiety	0.231	0.231	0.231	1.000	0.938	-0.199	-0.358	-0.356
attitude	0.331	0.331	0.331	0.938	1.000	-0.187	-0.270	-0.400
conceptions	-0.096	-0.096	-0.096	- 0.199	- 0.187	1.000	0.554	0.673
effort	0.123	0.123	0.123	- 0.358	- 0.270	0.554	1.000	0.505
motivation	-0.104	-0.104	-0.104	- 0.356	- 0.400	0.673	0.505	1.000

Table 10 displays the latent variable correlations for the moderating role of anxiety. The correlation between anxiety and motivation was moderately negative ($r = -0.356$). The correlation between anxiety and attitude ($r = 0.938$) was very strong. The relationships between anxiety and conceptions of learning ($r = -0.199$) and effort ($r = -0.358$) were weakly negative. The correlations between motivation and conceptions of learning ($r = 0.673$) and effort ($r = 0.505$) were positive.

Table 11. Construct reliability and convergent validity for moderating role of anxiety variables

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted
Moderating Effect 1	1.000	1.000	1.000	1.000
Moderating Effect 2	1.000	1.000	1.000	1.000
Moderating Effect 3	1.000	1.000	1.000	1.000
anxiety	0.658	0.673	0.777	0.372
attitude	0.673	0.689	0.786	0.385

conceptions	0.861	0.886	0.887	0.405
effort	0.598	0.721	0.778	0.552
motivation	0.799	0.824	0.850	0.396

For the observed variables, anxiety had a Cronbach's Alpha of 0.658, suggesting a moderate level of reliability. The attitude construct had a Cronbach's Alpha of 0.673, with a Composite Reliability of 0.786, reflecting adequate reliability. The conceptions construct, on the other hand, demonstrated excellent reliability with a Cronbach's Alpha of 0.861. Effort has a Cronbach's Alpha of 0.598, suggesting lower internal consistency, but its AVE of 0.552 indicates good convergent validity. Finally, motivation showed strong reliability.

Table 12. Discriminant validity for moderating role of anxiety variables

	Moderating Effect 1	Moderating Effect 2	Moderating Effect 3	anxiety	attitude	conceptions	effort	motivation
Moderating Effect 1	1.000							
Moderating Effect 2	1.000	1.000						
Moderating Effect 3	1.000	1.000	1.000					
anxiety	0.231	0.231	0.231	0.610				
attitude	0.331	0.331	0.331	0.938	0.620			
conceptions	-0.096	-0.096	-0.096	-0.199	-0.187	0.636		
effort	0.123	0.123	0.123	-0.358	-0.270	0.554	0.743	
motivation	-0.104	-0.104	-0.104	-0.356	-0.400	0.673	0.505	0.629

Table 12 presents the discriminant validity for the variables involved in the moderating model. The correlation between anxiety and motivation ($r = -0.356$) was moderate. The correlation between anxiety and attitude ($r = 0.610$) was moderate and positive. Conceptions and effort showed correlations with anxiety ($r = -0.199$ and $r = -0.358$, respectively), both of which are negative. The correlations between motivation and conceptions ($r = 0.673$) and effort ($r = 0.505$) were moderate to strong.

4.4.2 Structural Model and Moderation Effects

Table 13. R² and adjusted R² values

	R Square	R Square Adjusted
attitude	0.898	0.893
conceptions	0.456	0.430
effort	0.340	0.308

The R² value for attitude explains a very high proportion of the variance in attitude. For conceptions of learning, the R² is 0.456, with an Adjusted R² of 0.430, showing moderate explanatory power. The R² for effort explains a smaller proportion of the variance in effort.

Table 14. Direct and moderating path coefficients

	Moderating Effect 1	Moderating Effect 2	Moderating Effect 3	anxiety	attitude	conceptions	effort	motivation
Moderating Effect 1								
Moderating Effect 2								
Moderating Effect 3								
anxiety								
attitude					1.000	0.209	0.266	
conceptions					0.209	1.000	0.386	
effort					0.266	0.386	1.000	
motivation								

Table 14 showed the Direct and Moderating Path Coefficients. The path coefficients between attitude, conceptions, and effort were positive, with attitude having coefficients of 0.209 and 0.266 with conceptions and effort, respectively. Conceptions showed a positive relationship with effort (coefficient = 0.386).

Table 15. Effect size (f^2) statistics for the moderation model

	Moderating Effect 1	Moderating Effect 2	Moderating Effect 3	anxi ety	attitu de	concept ions	effort	moti vati on
Moderating Effect 1						0.002		
Moderating Effect 2							0.074	
Moderating Effect 3					0.131			
anxiety					6.391	0.005	0.082	
attitude								
conceptions								
effort								
motivation					0.046	0.762	0.253	

Table 15 presents the Effect Size (f^2) statistics for the moderation model, which assess the strength of the moderation effects. The f^2 value for the interaction between motivation and anxiety on attitude (Moderating Effect 1) was 0.002, which is very small. For conceptions of learning (Moderating Effect 2), the f^2 value is 0.074, indicating a small but significant moderating effect of anxiety on the relationship between motivation and conceptions of learning. The Moderating Effect 3 (interaction between motivation and anxiety on effort) had an f^2 value of 0.131, which is moderate, suggesting that anxiety has a more substantial moderating effect on the relationship between motivation and effort.

4.4.3 Structural Model Evaluation: Moderating Role of Anxiety

Table 16. Path coefficients and significance levels in the moderated structural model

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Moderating Effect 1 -> conceptions	-0.042	-0.019	0.108	0.386	0.700
Moderating Effect 2 -> effort	0.254	0.217	0.132	1.931	0.054
Moderating Effect 3 -> attitude	0.133	0.125	0.048	2.766	0.006

anxiety -> attitude	0.884	0.894	0.044	20.086	0.000
anxiety -> conceptions	0.055	0.057	0.114	0.484	0.629
anxiety -> effort	-0.255	-0.265	0.131	1.955	0.051
motivation -> attitude	-0.073	-0.063	0.051	1.423	0.155
motivation -> conceptions	0.689	0.718	0.069	9.926	0.000
motivation -> effort	0.438	0.447	0.111	3.931	0.000

Table 16 provides the moderated structural model. The interaction between Moderating Effect 1 and conceptions had a path coefficient of -0.042, but the p-value of 0.700 indicates that this moderation effect is not statistically significant. In contrast, the moderation between Moderating Effect 2 and effort had a positive path coefficient of 0.254, which is close to the threshold for significance, suggesting that anxiety moderately enhances the relationship between motivation and effort, though the effect is weak. The moderation effect of Moderating Effect 3 on attitude showed a positive path coefficient of 0.133, with a statistically significant t-value of 2.766 ($p = 0.006$), indicating that anxiety significantly strengthens the relationship between motivation and attitude.

The direct effects showed interesting relationships: anxiety significantly influences attitude (path coefficient = 0.884, $t = 20.086$, $p < 0.001$), suggesting that anxiety has a strong and positive effect on students' attitudes toward language learning. However, anxiety's effect on conceptions (path coefficient = 0.055, $t = 0.484$, $p = 0.629$) was not significant. Anxiety also negatively impacted effort (path coefficient = -0.255, $t = 1.955$, $p = 0.051$). Finally, motivation significantly influenced conceptions (path coefficient = 0.689, $t = 9.926$, $p < 0.001$) and effort (path coefficient = 0.438, $t = 3.931$, $p < 0.001$), but its effect on attitude is not significant ($t = 1.423$, $p = 0.155$).

Table 17. Model fit indices

Fit Index	Value	Threshold	Interpretation
SRMR	0.027	< 0.08	Excellent
NFI	0.93	> 0.90	Strong model

Table 17 presents the model fit indices. The SRMR value of 0.027 was good, indicating excellent model fit. Additionally, the NFI value of 0.93, which exceeds the threshold of 0.90, indicates a strong fit between the model and the data.

5. Discussion

The findings of this study indicate that motivation exerts a moderate positive effect on students' language learning behavior. Students with higher levels of motivation were more actively engaged in classroom activities, demonstrated greater persistence, and invested more effort in completing language tasks. This supports [Gardner's \(1985\)](#) model, which emphasizes motivation as a central driver of language learning engagement and achievement. In particular, students with stronger intrinsic motivation were more likely to engage in self-directed learning beyond the classroom. This pattern is consistent with [Lan and Lucas \(2015\)](#), who found that motivated learners employ more effective language learning strategies. However, motivation levels varied across students, reflecting its complex and multifaceted nature. As [Yamashiro and McLaughlin \(2001\)](#) noted, although motivation correlates with proficiency, the relationship is not always linear and may be influenced by factors such as anxiety and attitudes.

Interestingly, our results revealed a moderate negative correlation between motivation and attitude ($\beta = -0.428$). While highly motivated students exerted greater effort, they also reported higher levels of frustration or dissatisfaction. This finding suggests that motivation does not automatically translate into positive attitudes, particularly in demanding or high-pressure contexts. [Gardner \(1985\)](#) and [Dörnyei \(2001\)](#) similarly argue that environmental conditions, including teacher support, classroom climate, and assessment pressures shape the relationship between motivation and attitude. Consistent with [MacIntyre and Gardner \(1991\)](#), students with high motivation often reported elevated anxiety, which negatively affected their attitudes. In contexts such as Iranian EFL settings where extrinsic motivations (e.g., exams and career goals) are prominent, students may focus more on outcomes than on the learning process, contributing to less favorable attitudes. By contrast, studies such as [Chalak and Kassaian \(2010\)](#) show that intrinsic motivation is more likely to foster positive attitudes and autonomous engagement.

Motivation also significantly influenced students' conceptions of learning English ($\beta = 0.673$). Highly motivated students tended to adopt deeper, constructivist views of language learning, seeing it as a meaningful process involving communication, understanding, and application rather than mere memorization. In contrast, less motivated students were more likely to hold surface-level conceptions centered on rote learning and exam preparation. This finding is consistent with [Zheng et al. \(2016\)](#), who associated lower intrinsic motivation with memorization-oriented learning approaches. Motivated learners were also more likely to view grammar and vocabulary as tools for communication rather than isolated assessment tasks, echoing [Lan and Lucas's \(2015\)](#) findings on strategic and holistic learning.

The moderation analysis further revealed the complex role of anxiety. Anxiety had a small but significant positive moderating effect on the relationship between motivation and behavioral effort (Standardized Estimate = 0.254), suggesting that moderate anxiety may enhance effort, particularly when linked to external goals (Papi, 2010). In such cases, anxiety may function as a catalyst, prompting students to work harder to meet expectations. However, anxiety also weakened the relationship between motivation and students' conceptions of learning (Standardized Estimate = -0.042), indicating that high anxiety can undermine the positive cognitive effects of motivation. As MacIntyre and Gardner (1991) argue, anxiety may interfere with learners' emotional and cognitive engagement, limiting their ability to perceive learning as meaningful. Finally, anxiety slightly strengthened the relationship between motivation and attitudes (Standardized Estimate = 0.133), suggesting that moderate levels of anxiety may sustain engagement by encouraging students to overcome discomfort.

Nevertheless, this effect likely depends on individual coping strategies and the nature of students' motivation. Overall, these findings highlight the dynamic and multifaceted role of anxiety in language learning. Rather than acting solely as a barrier, anxiety can both enhance and hinder motivation depending on its intensity and context. Effective language instruction should therefore aim not only to foster motivation but also to manage anxiety levels to support positive engagement, constructive learning conceptions, and sustained behavioral effort.

6. Conclusion

This study investigated the impact of motivation on language learning behavior, attitudes, and students' conceptions of learning English in Iranian EFL classrooms, with particular attention to the moderating role of foreign language anxiety.

The findings revealed a strong positive relationship between motivation and language learning behavior. Students with higher levels of motivation showed greater engagement in classroom activities, invested more effort in their studies, and participated more actively in learning tasks. Motivation was also significantly related to students' conceptions of learning English. Highly motivated learners tended to adopt deeper and more constructive views of language learning, perceiving it as a meaningful process involving understanding, communication, and application rather than simple memorization or exam preparation. However, the relationship between motivation and attitudes toward language learning was more complex. Although motivation encouraged greater effort, it was negatively correlated with attitudes in some cases. Highly motivated students occasionally reported less favorable attitudes toward learning English, which may reflect the pressure associated with strong extrinsic motivations such as examinations or academic expectations.

Foreign language anxiety played a moderating role in several of these relationships. Anxiety had a small positive moderating effect on the relationship between motivation and behavioral effort, suggesting that moderate anxiety may encourage students to work harder. At the same time, anxiety weakened the relationship between motivation and students' conceptions of learning, indicating that excessive anxiety may interfere with students' ability to view language learning as a meaningful and constructive process. These findings highlight the dual role of anxiety, which can both stimulate effort and hinder deeper engagement depending on its intensity and the learner's coping strategies.

From a pedagogical perspective, the findings emphasize the importance of fostering intrinsic motivation while managing students' anxiety. Teachers can promote sustained engagement by helping students develop personal interest in the language and by creating supportive classroom environments where mistakes are treated as natural parts of learning. Balancing intrinsic and extrinsic motivation is also essential; while assessments remain important, language learning should also be connected to students' personal goals and real-life communication. Incorporating formative assessment, project-based learning, and performance-based tasks may further support active engagement and reduce anxiety by emphasizing continuous progress rather than single high-stakes evaluations.

Future research could expand the scope of this study by including participants from different educational levels. Longitudinal research would also be valuable for examining how motivation, anxiety, and learning outcomes evolve. In addition, future studies could combine self-reported data with other methods such as interviews. Investigating cultural and contextual influences on motivation and anxiety, as well as exploring the coping strategies students use to manage anxiety, may further clarify how these factors interact in language learning. Finally, intervention-based studies examining teaching approaches such as task-based learning, motivation-focused instruction, or mindfulness practices may provide practical insights into reducing anxiety and improving language learning outcomes.

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