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An empirical investigation of the relationship between individual learner factors and foreign language speaking anxiety in EFL university learners

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Abstract

The current study recruited 306 participants (males=194, females= 112) to fill out a questionnaire consisting of two sections for demographic information and a second section with 38 close-ended items to investigate the structural relationships among individual learner factors and anxiety when speaking a foreign language in Chinese EFL university learners. These factors included exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of the use of social media, perceived competence and parental education status. The findings of the direct effects indicated that exposure to English, attitude towards learning English and perceived oral proficiency were negatively correlated whereas years of learning English and the perceived effectiveness of social media had an insignificant effect on foreign language speaking anxiety. In addition, according to the indirect predictive effects of perceived competence (mediator) on foreign language speaking anxiety, all other factors with the exception of years of learning English were found to be positively mediated by perceived competence. Lastly, the moderating effect of parental education status indicated that the interaction term (perceived competence x parental education status) had a negative and significant effect on foreign language speaking anxiety. The findings indicate that speaking anxiety exists in and out of class and can cause a detrimental effect on university learners' communication and speaking skills due to a lack of confidence, practice, exposure and interaction. This research provides several insightful practical implications for EFL teachers and policymakers.

Keywords: Anxiety, China, Foreign language, Individual learner factors, Perceived barriers, Speaking anxiety, University students.

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1. Introduction

China is the most populated country globally and has the largest number of foreign language learners. According to the Kachru [1] concentric model, China falls into the expanding circle where English is used as a foreign language in the country. English language proficiency, clear speech and effective communication are considered essential for success and career prospects in China. Young Chinese view English as a primary requirement for international travel and higher education. Speaking and studying English can be challenging since learners of English as a foreign language (EFL) are not frequently exposed to foreign languages [2-5]. A number of studies have reported that there is foreign language speaking anxiety among EFL learners in Confucian countries like Japan, Korea and China who are more anxious about speaking foreign languages [6]. The researchers have analysed various factors generating speaking apprehension in learning a foreign language and identified various factors because of the debilitative effects of anxiety with mixed results [2]. In the Chinese context, there is a scarcity of speaking anxiety research and previous studies mostly focused on young EFL learners and high school students without taking into account individual learner factors [7].

Anxiety is a psychological state that affects people severely and keeps them from living well. It is not confined to the early years of life such as childhood but it also persists into later stages of life. Some individual learner variables have been linked to anxiety in the past but research supporting this relationship is still lacking because the mediating role of perceived competence and the moderating role of parental educational level in the relationship between speaking anxiety and individual learner variables were not taken into account by previous researchers. This research seeks to test by modelling the intricate relationships between individual learner factors and foreign language speaking anxiety of EFL university learners in addition to the theoretical background supporting an important role of Vygotsky [8] and by shedding light on the theoretical and methodological issues raised by previous studies. The proposed model of this study is guided by Vygotsky's [8] socio-cultural theory and fills the gap by investigating these relations in the Chinese context usingstructural equation modelling techniques to test hypothesized relationships in the proposed model. Additionally, this study fills the gap by examining perceived competence as a mediator variable between independent variables that have not yet been investigated as mediators in empirical tests. In addition, this study has included parental education status as a moderator variable between perceived competence and foreign language speaking anxiety, a moderation effect that has not been tested in earlier studies [9]. It fills the gap for further speaking anxiety in foreign lanugauge research in China specifically and in other contexts generally to use this type of insightful methodology and the results drawn will lead to further revelations about foreign languauge speaking anxiety.

The study has the following research questions:

1. What are the predictive effects of individual learner factors (i.e., exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of the use of social media) on the foreign language speaking anxiety of Chinese EFL university learners?
2. Does perceived competence mediate between the individual learner factors (i.e., exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of the use of social media) and the foreign language speaking anxiety of Chinese EFL university learners?
3. Is there any moderating role of parental education status in the perceived competence and foreign language speaking anxiety of Chinese EFL university learners?

1.1. Motivation for the Present Study

Many questions have been on my mind as a researcher at a Chinese university for many years: such as why do certain students experience shyness, anxiety, lack of confidence and nervousness in front of others? What are the reasons and obstacles that prevent them from speaking confidently? Is it lack of exposure? or individual learner factors? their introverted personality or negative attitude? or linguistic, psychological or socio-cultural factors? that hinders them from speaking foreign language confidently. Nevertheless, the answers to these questions were not readily available due to the scarcity of research on these issues related to speaking anxiety in China and the proper methodology required desperately to dig out the causes behind this complex phenomenon of speaking disorders and anxiety. This motivated me to conduct this study.

2. Literature Review

2.1. Foreign Language Anxiety

According to Horwitz [10] a speaker must perform a number of complex cognitive functions in order to communicate effectively and nervousness is a common occurrence for speakers. According to Parr and Krashen [11] two factors are very important for learning a foreign language: that is maximum exposure or comprehensible input and secondly, motivation and confidence should be high so that the comprehensible input can reach its desired target and learners can gain foreign language knowledge and learn it.

2.2. Foreign Language Speaking Anxiety

According to psychologists, "speaking anxiety" is a feeling of unease, restlessness, subjective feelings of self-perceptions, beliefs, apprehension and an affective state characterized by a feeling of insecurity experienced by students and learners while communicating with others and it affects their oral and verbal performance [12]. It is described as a subjective feeling of worry provoked by an intentional thought in the brain. A plethora of other studies around the globe have shed light on anxiety provoking factors and concluded that speaking is the most anxiety provoking factor [2, 5]. These factors include psychological, cognitive, physiological, student-interlocutor related, factors related to personality, negative attitude, introversion, language disorders and socio-cultural factors like friends or fellows, parental influence or encouragement. Second language learners' performance is directly affected when they experience speaking problem on stage, public fear or shyness in any baffling situation and anxiety.

3. Review of Previous Studies on Individual Learner Factors

Previous studies indicated that numerous factors or "individual learner variables" may affect foreign language speaking anxiety in second or target language speaking and learning.

3.1. Exposure to English

Exposure to the English language occurs whenever people engage in communication or conversations with family members, friends, class fellows and professional colleagues. Exposure to the target language refers to any interaction that people may have such as reading books or magazines in the language or finding information being shared in discussions or other social media platforms where they are simply passive participants and a second language is being used. Gökcan and Çobanoğlu Aktan [9] conducted a study on a sample of 826 Turkish 8th grade students of English from six different schools. Their study concluded that exposure to English had an indirect effect on ENGPRO by mitigating the apprehension, i.e., the anxiety mediated the influence of exposure on ENGPRO.

3.2. Attitude towards Learning English

Attitude is a learned behavior that learners can change from negative to positive by incorporating meaningful tasks, experiences and activities. Some learners may develop a negative attitude towards the target language and just want to gain knowledge of the target language to make an impression on people in the community whereas a generally positive attitude motivates a learner to acquire and learn a language while some learners may develop neutral feelings [7]. The number of other studies indicates that a positive attitude leads to high motivation, success and enjoyment in learning a foreign or second language speaking [2].

3.3. Perceived Oral Proficiency

Language proficiency is the ability of a learner or an individual to speak or communicate effectively in a foreign language. Furthermore, proficiency is the achievement of a learner in a foreign language both inside and outside of the classroom over a period of time. Perceived oral proficiency can be determined or measured by students' self-ratings and it plays a significant role in the language acquisition process and anxiety. Previous studies show a significant and negative relationship between perceived oral proficiency and foreign language speaking anxiety Gökcan and Çobanoğlu Aktan [9].

3.4. Years of Learning English

The number of years spent indicates the amount of time one spent learning English including school years [13]. It has been discussed by some researchers in empirical studies.However, limited studies are available [13]. In literature, there is a negative relationship between the number of years spent learning English that is if more years are spent learning a foreign language, the anxiety will be reduced when speaking and learning a foreign language [14].

3.5. Perceived Competence

Perceived competence refers to a person's perception and belief that he or she has the ability, competence, skills and qualifications to perform and do things well [15]. Learners' judgement of perceived competence contributes a key role in determining his or her level of taking various challenging tasks and the anxiety experienced during learning and speaking of foreign language and many studies support it [15].

3.6. Perceived Effectiveness of the Use of Social-Media

Social media is a broad term in which numerous networks, blogs and forums transform internet users from passive listeners to active users by accommodating interaction and involvement in effective communication. Social media is considered to be a very helpful and efficient tool for improving and giving students access to helpful lessons, content and interactive sessions. It also helps them give better performances. Many other studies supported the effectiveness of the use of social media in mitigating foreign language anxiety and found it to be a significant predictor of target language apprehension Gökcan and Çobanoğlu Aktan [9].

3.7. Parental Education Status

According to the research, parents' educational level, guardian influence or parents' support can play a significant role in learners' language acquisition and speaking anxiety. Parents play critical roles in helping their children develop their literacy and educational levels, though they do so in slightly different ways. There are other empirical studies supporting the significant and negative relationship between parental education status and foreign language speaking anxiety Gökcan and Çobanoğlu Aktan [9].

4. Hypotheses Development

Hypothesis H_{1a}: Exposure to English is negatively related to foreign language speaking anxiety.

This hypothesis is based on previous studies related to exposure to English research by Gökcan and Çobanoğlu Aktan [9]. According to them, exposure to language is undoubtedly a significant factor in the learning and speaking of any language and by increasing exposure to English the students' anxiety level and speaking anxiety are decreased because of maximum comprehensible input.

Hypothesis H_{2a}: Attitude towards learning English is negatively related to foreign language speaking anxiety.

This hypothesis is based on the previous literature and studies according to which a positive attitude towards learning English reduces anxiety when speaking and learning foreign language. Previous studies indicate that those students who have a negative attitude towards language acquisition experience anxiety [16].

Hypothesis H_{3a}: Perceived oral proficiency is negatively related to foreign language speaking anxiety.

The hypothesis is based on previous studies that show a significant and negative relationship between perceived oral proficiency and foreign language anxiety. According to Gardner and MacIntyre [17] perceived oral proficiency is strongly and negatively correlated with anxiety as compared to actual proficiency.

Hypothesis H_{4a}: Years of learning English is negatively related to foreign language speaking anxiety.

This hypothesis is based on the results drawn from the previous literature that there is a negative relationship between the number of years in learning English that is if more years are spent learning English, the anxiety will be reduced in speaking [13].

Hypothesis H_{5a}: Perceived effectiveness of the use of social media is negatively related to foreign language speaking anxiety.

This hypothesis is based on previous studies that indicate that the use of social media has a negative relationship with foreign language speaking anxiety that is when a learner frequently uses social media, his or her speaking and communication skills improve and speaking anxiety is mitigated [18].

Hypothesis H_{1b}: Perceived competence is positively mediating the relationship between exposure to English and foreign language speaking anxiety.

This hypothesis is based on previous studies and according to the literature; exposure to English positively affects language acquisition and perceived competence. When exposure to English increases the learners' competence level also increases and learners with maximum exposure to English and the target language are expected to get greater familiarity with second or foreign language competence and as a result, language and speaking anxiety are reduced Gökcan and Çobanoğlu Aktan [9].

Hypothesis H_{2b}: Perceived competence is positively mediating the relationship between attitude towards learning English and foreign language speaking anxiety.

This hypothesis is based on the literature. According to Krashen [19] a positive attitude helps in language acquisition and students with high motivation, high confidence and a positive attitude along with a low level of anxiety are able to achieve and acquire language successfully. The previous studies indicated that there is a positive relationship between attitude towards learning English and perceived competence and that perceived competence is also negatively correlated with speaking [20].

Hypothesis H_{3b}: Perceived competence is positively mediating the relationship between perceived oral proficiency and foreign language speaking anxiety.

This hypothesis is based on previous studies in existing literature that have found a positive and significant relationship between perceived oral proficiency and perceived competence [20]. Perceived oral proficiency is stronger than actual proficiency in predicting the perceived competence of the learner. For example, Gardner and MacIntyre [17] reported that perceived oral proficiency is strongly and negatively correlated with anxiety as compared to actual proficiency and is considered to be the best predictor of perceived competence.

Hypothesis H_{4b}: Perceived competence is positively mediating the relationship between years of learning English and foreign language speaking anxiety.

This hypothesis is based on previous research showing that the number of years spent learning English positively correlates with perceived proficiency in literature. Speaking anxiety is reduced and second language competency is positively impacted by the number of years spent learning English [21].

Hypothesis H_{5b}: Perceived competence is positively mediating the relationship between perceived effectiveness of the use of social media and foreign language speaking anxiety.

This hypothesis is based on previous studies in the existing literature. According to the literature, the use of social media positively affects learners' competence and helps in reducing speaking anxiety as a result of frequent and positive use of social media. For example, various social media applications can be used in academic as well as non-academic settings to improve speaking and communication skills between students and teachers and promoting learners' engagement

helping in collaborative learning and increasing students' competence and overcoming their anxiety issues. Khan, et al. [22] conducted a study among 36 Pakistani university English teachers at the university level and it indicated that social media plays an effective and significant role in the development of English vocabulary, language skills and competence.

Hypothesis H_6: Parental education status is negatively moderating the relationship between perceived competence and foreign language speaking anxiety.

According to earlier research, learners' nervousness when speaking a foreign language is inversely correlated with their parents' educational attainment. On the other hand, learners' foreign language proficiency is positively impacted by highly educated parents who have had more exposure to the English language [9].

5. Research Design and Methods

5.1. Participants

The presented study used a correlational research design using quantitative methods. Correlational research design under quantitative technique enables analyzing direct and indirect relations (causes and effects) where the study variables are classified as independent (predictor) and dependent (outcome) variables [9]. In this study, for the predictive correlational study (research question 1, research question 2 and research question 3), the participants (EFL university learners) were recruited from a public sector university through convenient sampling (N= 306) from a Chinese university situated in Wuhan. The demographic information is presented in Table 1. The current research attempts to investigate the effects and relationships between selected variables according to the study's aims and objectives. Thus, the present study using the non- probability sampling technique used a convenient sampling procedure in accordance with the research questions and sample size.

Table 1.
Chinese EFL learners.

Variable	Category	Number	Percentage
Chinese EFL learners	Male	194	63.4
	Female	112	36.6
	Total	306	100%

5.2. Instruments

The current study used a composite questionnaire with 38 closed-ended items divided into two sections: one for demographic data and the other for psychometric scales. For this purpose, scales i.e., exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of the use of social media, perceived competence, parental education status and foreign language speaking anxiety were used to get the perceptions of the respondents. The answers are on a five-point Likert scale.

Considering the predictive correlation in nature (causes and effects), a quantitative study is suitable for predicting these effects. The present study used Cronbach's alpha for testing the reliability of the instruments used in this study and convergent validity and discriminant validity were performed for instrument validation.

Foreign Language Speaking Anxiety Scale: The foreign language speaking anxiety is the dependent variable of the proposed model in this study. The five items scale is adapted from Makewa, et al.'s [20]. These items provide information regarding foreign language speaking anxiety of learners.

The internal consistency of Cronbach's alpha was .919 indicating it to be highly reliable within threshold values *>0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity of the foreign language class room anxiety scale was 0.815 and 0.869. All the factor loadings were *>0.5* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Exposure to English Scale: The exposure to English is the independent variable in this study and the five item scale is adapted from Gökcan and Çobanoğlu Aktan [9]. Items are validated to measure students' perceptions about exposure to English.

The internal consistency of Cronbach's alpha was .937 indicating it to be highly reliable within threshold values *> 0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity for exposure to English scale was 0.844 to 0.886. All the factor loadings were *>0.5* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory level.

Attitude Towards Learning English Scale: The attitude towards learning English is the independent variable in this study and a four item scale is adapted from Makewa, et al.'s[20] study to measure students' perceptions about the attitudes towards English language that might be either positive or negative.

The internal consistency of Cronbach's alpha was .920 indicating it to be highly reliable within threshold values *>0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity was ranged between 0.855 to 0.881. All the factor loadings were *>0.5* ranged between threshold

values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Perceived Oral Proficiency Scale: The scale of perceived oral proficiency is the independent variable in the proposed model and a three item scale is adapted from Makewa, et al.'s [20] study to measure the perception of students' perceived oral proficiency.

The internal consistency of Cronbach's alpha was .870 indicating it to be highly reliable within threshold values > *0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity was between 0.804 to 0.859. All the factor loadings were *>0.5* and ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Years of Learning English Scale: The scale of years of learning English is the independent variable and three items were partially adapted from the [13] study. The adapted items were validated and words were altered to tailor the instrument as the researcher could not locate the specific scale to measure the years of learning English. The experts in the field were contacted for advice of developing a new scale and three new items were added specifically to fulfil the aims of this study. The years of learning English scale consists of six items.

The internal consistency of Cronbach's alpha was .951 indicating it to be highly reliable within threshold values *>0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity was between 0.845 to 0.898. All the factor loadings were *>0.5* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Perceived Effectiveness of the Use of Social Media Scale: The scale of perceived effectiveness of the use of social media is the independent variable and a five item were adapted from the Alsaied's [23] study to measure the perceptions of students regarding effectiveness of the use of social media.

The internal consistency of Cronbach's alpha was .895 indicating it to be highly reliable within threshold values *>0.5* and acceptable for analysis.

The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity was between 0.76 and 0.838. All the factor loadings were *>0.5 and* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Perceived Competence Scale Perceived competence is the mediator variable in the proposed model and five items were adapted from Knell and Chi's [24] study to measure the perceived competence of students.

The internal consistency of Cronbach's alpha was .939 indicating it to be highly reliable within threshold values > *0.5* and acceptable for analysis.

The convergent validity was between 0.859 and 0.874. All the factor loadings were *>0.5 and* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Parental Education Status Scale is the moderator variable in the proposed model of this study and five items were adapted from Knell and Chi's [24] study to measure the perception of students' regarding parental education status.

The internal consistency of Cronbach's alpha was .893 indicating it to be highly reliable within threshold values *>0.5* and acceptable for analysis. The convergent validity and discriminant validity were conducted for each item for the validation of the instrument. The convergent validity for scale was between 0.771 and 0.817. All the factor loadings were *>0.5 and* ranged between threshold values. Critical ratios were above 1.96 and values of average variance extraction and composite reliability were above satisfactory levels.

Table 2.
Descriptive statistical summary of constructs.

Items (Codes)	Mean	Std. deviation	Skewness	Kurtosis
EXP	2.722	1.295	0.372	-1.496
ATT	2.629	1.237	0.360	-1.379
PROF	3.059	1.289	-0.095	-1.515
Years	2.708	1.190	0.384	-1.383
SMED	2.643	1.099	0.427	-1.008
PCOM	3.084	1.269	-0.188	-1.537
PEDU	2.817	1.196	0.230	-1.416
FLSA	2.959	1.249	-0.002	-1.563

6. Results

6.1. Descriptive Statistics

According to the data shown in Table 2, the normality of each measured item in the sample was examined by depending on the "skewness" and "kurtosis statistics". The "skewness" and "kurtosis statistics" values were found within the accepted range which indicated that the data distribution in the data set fulfils the normality requirement.

Table 3.
Cronbach's alpha values for the constructs in the sample.

Constructs (Codes)	Items	Cronbach's alpha (α)
Exposure to English	EXP	0.937
Attitude towards learning English	ATT	0.920
Perceived oral proficiency	PPROF	0.87
Years of learning English	YEARS	0.951
Perceived effectiveness of social media	SMED	0.895
Perceived competence	PCOM	0.939
Parental education status	PEDU	0.893
Foreign language speaking anxiety	FLSA	0.919

6.2. Reliability

According to Table 3, the reliability of all constructs is within threshold values and appropriate for further analysis.

6.3. Validity

Confirmatory factor analysis was performed for the current study and consists of the following parts: 1) "the measurement model" which connects and combines the observed indicators or variables with unobserved variables through confirmatory factor analysis in a model. 2) "a structural model" which connects the latent variables to other observed variables and items by means of simultaneous structural equations. In addition, structural equation modeling employs maximum likelihood estimation for the estimation of the model parameters.

6.4. Measurement Model Fit

In the current study, the measurement model was tested and estimated employing the maximum likelihood estimation method. Table 4 represents the goodness of fit indices for the measurement models.

Table 4.
Goodness of model fit indexes of the measurement model.

Model fit (No. of round)	CMIN / DF (χ 2/df)	GFI	AGFI	RMSEA	RMR	CFI	TLI
	1.077	0.899	0.882	0.016	0.066	0.994	0.994

Note: Chi-square =685.786 degrees of freedom = 637 *p=000.*

The measurement models indicated an overall goodness of fit and the reported indices were within the accepted cut-off values. Different statistical evaluations for "model fit" indices such as "chi-square", the relative chi-square, "goodness of fit index", "comparative fit index", "tucker-Lewis index", "root mean square of error approximation", "root mean square residual".

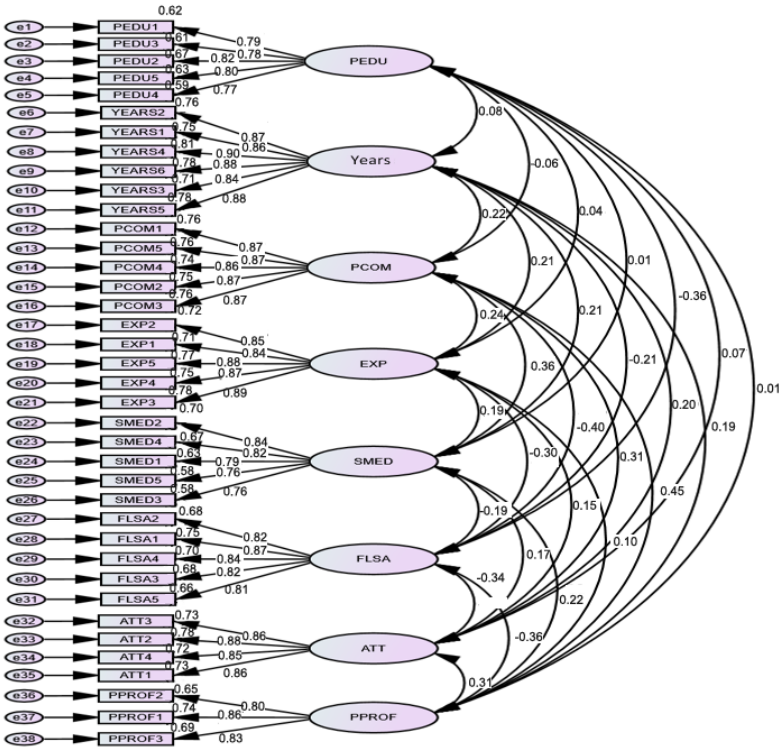

Figure 1.
Standardized path coefficients for the measurement model.

(RMR) and "maximum likelihood estimates (standardized regression weights and squared multiple correlations) are deemed the minimum requirements to assess the model fit [25]. According to the threshold values, the standardized loading estimates should be 0.5 or greater and ideally 0.7 or above than that, with a critical ratio (t—value) > 1.96 and "squared multiple correlations" above than >0.3 [25]. In the present study, confirmatory factor analysis was performed using AMOS 22 software to validate the measurement model (see Figure 10). The convergent validity ranged from 0.76 to 0.898, whereas the composite reliability of all factors is above than >0.7. The average variance extracted is greater than 0.5 and statistically significant as mentioned above in Table 5 which indicates that our study's sample values of factor loadings, critical ratio and average variance extraction are within threshold. Hence, it was possible to proceed further for the second step and examine and test the proposed structural model.

Table 5.
Convergent validity.

Construct	Item	Loading	CR	AVE	Cronbach's alpha
Parental education status	PEDU1	0.788		0.626	0.893
	PEDU3	0.783	14.399		
	PEDU2	0.817	15.126		
	PEDU5	0.796	14.665		
	PEDU4	0.771	14.119		
Years of learning English	YEARS2	0.874		0.764	0.951
	YEARS1	0.864	20.906		
	YEARS4	0.898	22.651		
	YEARS6	0.881	21.779		
	YEARS3	0.845	20.014		
	YEARS5	0.883	21.849		
Perceived competence	PCOM1	0.874		0.755	0.939
	PCOM5	0.873	21.76		
	PCOM4	0.859	20.416		
	PCOM2	0.868	20.822		
	PCOM3	0.869	20.885		
Exposure to English	EXP2	0.849		0.748	0.937
	EXP1	0.844	18.739		
	EXP5	0.878	20.081		
	EXP4	0.867	19.63		
	EXP3	0.886	20.391		
Perceived effectiveness of social media	SMED2	0.838		0.632	0.895
	SMED4	0.819	16.538		
	SMED1	0.792	15.786		
	SMED5	0.765	15.053		
	SMED3	0.76	14.925		
Foreign language speaking anxiety	FLSA2	0.824		0.696	0.919
	FLSA1	0.869	18.315		
	FLSA4	0.839	17.395		
	FLSA3	0.825	16.967		
	FLSA5	0.815	16.666		
Attitude towards learning English	ATT3	0.855		0.741	0.920
	ATT2	0.881	19.876		
	ATT4	0.85	18.754		
	ATT1	0.857	18.988		
Perceived oral proficiency	PPROF2	0.804		0.692	0.870
	PPROF1	0.859	15.632		
	PPROF3	0.831	15.274		

Table 6.
Discriminant validity.

	PEDU	YEARS	PCOM	EXP	SMED	FLSA	ATT	PPROF
PEDU	1							
YEARS	0.079	1						
PCOM	-0.056	0.218***	1					
EXP	0.043	0.211***	0.237***	1				
SMED	0.011	0.213***	0.355***	0.188**	1			
FLSA	-0.358***	-0.212***	-0.401***	-0.305***	-0.190**	1		
ATT	0.074	0.195**	0.305***	0.146*	0.166**	-0.343***	1	
PPROF	0.007	0.191**	0.451***	0.098	0.218**	-0.361***	0.308***	1

Note : Significance level * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$.

According to the discussion above, we used two steps in structural equation modeling statistical analysis. The first and foremost important step is to perform a "measurement model" assessment or evaluation to obtain the validity and reliability

of the unobserved variables or latent constructs. The next or second step is to conduct a "structural model" assessment for investigating the hypothesized relationship among the unobserved variables or latent constructs in the proposed or hypothesized model. The hypothesized or structural model basically demonstrates the relationship between the unobserved or latent constructs. In the model, it specifically allows to evaluate the direct or indirect effect.

RQ-1 Individual learner factors' effects on foreign language speaking anxiety.

The purpose of (research question 1) was to test the direct effects of individual learner factors (exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of the use of social media, perceived competence, parental education status) and foreign language speaking anxiety. Previously, we discussed the instrument validity and reliability of the proposed model and the results of the reliability and validity of the instrument and measurement model are presented above in Tables 5 and 6. The next step was to use the maximum likelihood estimation method for further statistical analysis employing structural eqaution modeling which is conducted in a two-steps procedure; the first is the "measurement model" which measures the validity of the structural theory that has been mentioned above. The second step is the "structural model" which is concerned with dependent and independent variables and hypothesized relationships (direct effect) in the hypothesized model.

6.5. Structural Model and Hypothesis Testing of Direct Effects

Hypothesis testing was conducted in three steps. At the first stage of the structural model, we tested the direct effect of independent variables (exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of use of social media) on the dependent variable of foreign language speaking anxiety. In the first step of this proposed model, this study conducted simple regression with independent variables (i.e. exposure to English , attitude towards learning English, perceived oral proficiency, years of learning English, perceived effectiveness of use of social media) and a dependent variable (foreign language speaking anxiety).

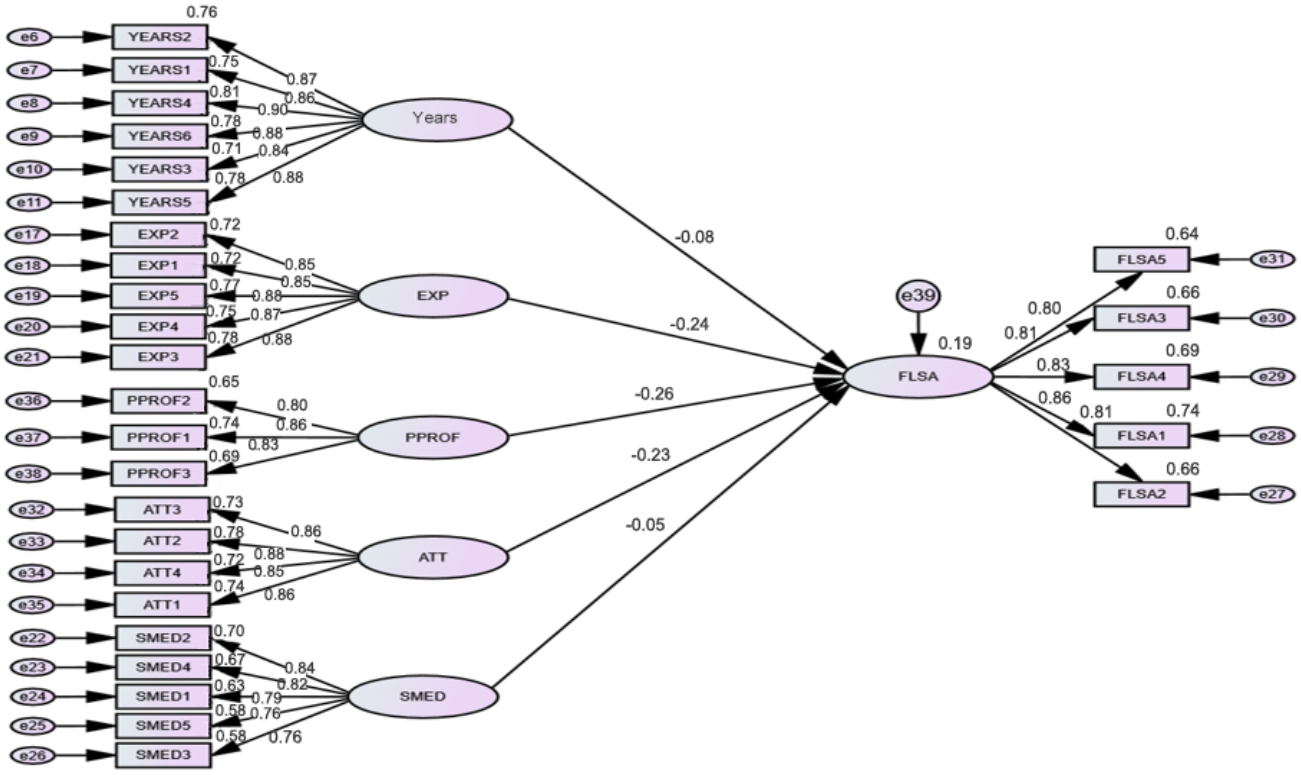

Figure 2.
Standardized values of direct effects.

In the first model of the current sample, we ran simple regression with individual learner variables as independent variables and dependent variable foreign language speaking anxiety. The standardized results are displayed in Table 7. According to Table 7, direct effect of independent variables on the dependent variable was tested. The exposure to English (β = -.240, p < 0.001), attitude towards learning English (β = -.232, p < 0.001) and perceived oral proficiency (β = -.264, p < 0.001) had a negative and significant effect on foreign language speaking anxiety whereas years of learning English (β = -.078, p > 0.001) and perceived effectiveness of use of social media (β = -.055, p > 0.001) had an insignificant effect on foreign language speaking anxiety. The r-square value for foreign language speaking anxiety is .19. This model indicates that about 19% of the variance can be explained by individual learners' factors of foreign language speaking anxiety in the sample.

Table 7.
Regression results of direct effects.

Predictor	Outcome	Std. beta
Exposure to English (EXP)	Foreign language speaking anxiety	-0.240***
Attitude towards learning English (ATT)	Foreign language speaking anxiety	-0.232***
Perceived oral proficiency (PPROF)	Foreign language speaking anxiety	-264***
Years of learning English (Years)	Foreign language speaking anxiety	-0.078
Perceived effectiveness of the use of social-media (SMED)	Foreign language speaking anxiety	-0.055

Note: Significance level: *** $p < 0.001$.

Figure 2 displayed five hypothesized paths: exposure to English, attitude towards learning English, a perceived oral proficiency had a negative and significant relation with foreign language speaking anxiety whereas years of learning English and perceived effectiveness of the use of social media had a negative but insignificant effect on the dependent variable foreign language speaking anxiety. A significant relationship was found between the first three constructs and their *p-values (***)* were within the accepted range. Thus, the hypothesized relationships were significant, testified and confirmed the proposed hypothesis H1a, H2a, H3a whereas H4a, H4b and H5a were not supported.

RQ-2: Individual learner factors' effect on foreign language speaking anxiety through perceived competence.

6.6. Hypothesis Testing and the Hayes Process

In the second research question (research question 2) and the second step of the structural model, we tested the indirect and mediation effects of the mediator (perceived competence) between the independent and dependent variables. The indirect effects of hypothesized relationship were tested with the path coefficient and the results are displayed in Table 8 *by* using the Hayes process in Analysis of Moment Structures (here after AMOS) 22 for mediation testing.

The path is divided into three steps procedures in mediation analysis. The first phase is to test the direct effect of independent variable on dependent variable. In the next step, the influence or effect of the independent variable on the mediator is tested and lastly, the mediator's effect is examined and analyzed on the dependent variable. The researcher used the bias-corrected bootstrapping approach Hayes [26] used in AMOS 22 to test the mediation effects and their statistical significance in the proposed model of the study.

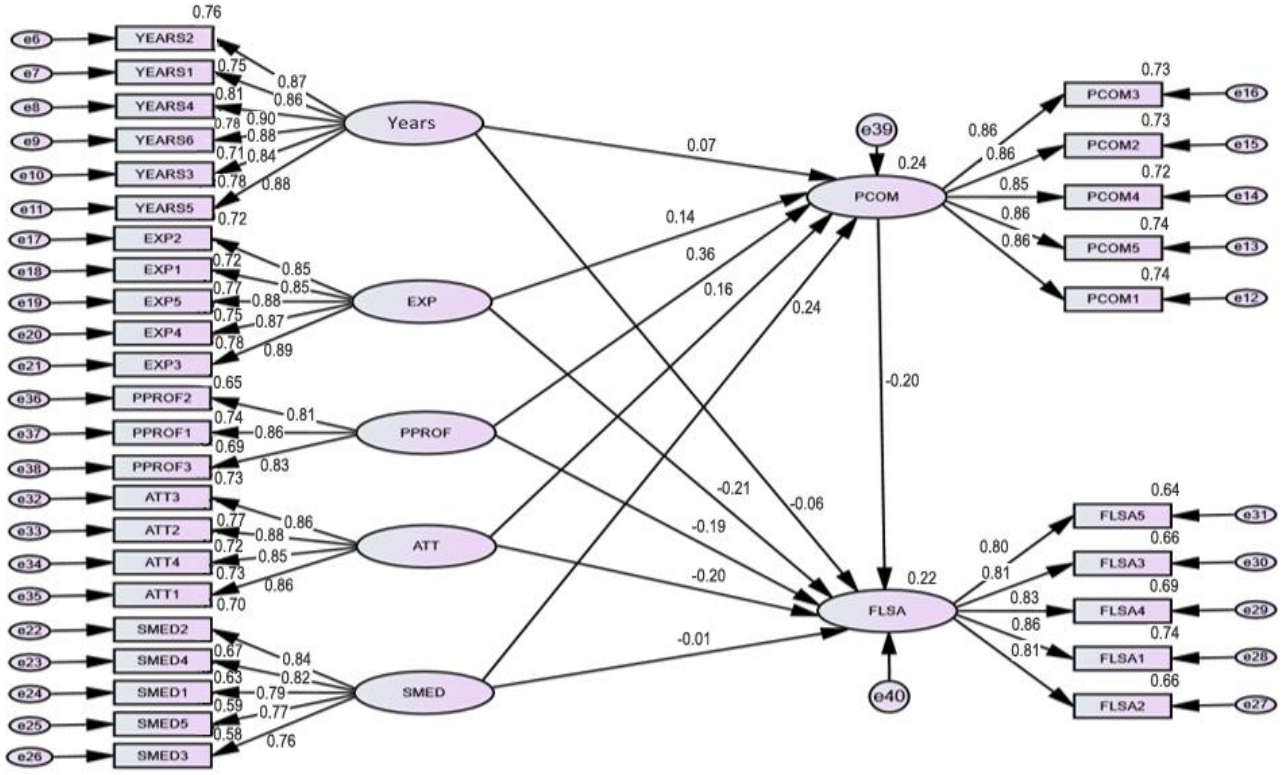

Figure 3.
Mediating effect of perceived competence.

Figure 3 represents the results of the indirect effect of the independent variables exposure to English ($\beta = .143$, $p < 0.001$), attitude towards learning English ($\beta = .157$, $p < 0.001$) and perceived oral proficiency ($\beta = .358$, $p < 0.001$) had positive and significant effect on perceived competence whereas years of learning English ($\beta = .068$, $p > 0.001$) effect was insignificant on the mediator perceived competence which revealed that years was not a stronger predictor of perceived competence in our study sample. The perceived effectiveness of the use of social media ($\beta = .244$, $p < 0.001$) and its indirect effect on the mediator's perceived competence was positive and significant. The *R* square value for this structural

model was 0.24 and this represented that individual learner factors (exposure to English, attitude towards learning English, perceived oral proficiency, years of learning English and perceived effectiveness of the use of social media) explain the variance in perceived competence about 24%. Perceived competence (β = -.201 p < 0.001) had a significant and negative effect on foreign language speaking anxiety in the sample. In the mediation model, the results of the mediation analysis are displayed in Table 8.

Table 8.
Regression results (mediation analysis).

Predictor	Outcome	Std. beta
Exposure to English (EXP)	PCOM	0.143***
Attitude towards learning English (ATT)	PCOM	0.157***
Perceived oral proficiency (PPROF)	PCOM	0.358***
Years of studying English (Years)	PCOM	0.068
Perceived effectiveness of the use of social media (SMED)	PCOM	0.244***
Perceived competence (PCOM)	FLSA	-0.201***
Exposure to English (EXP)	FLSA	-0.211***
Attitude towards learning English (ATT)	FLSA	-0.200**
Perceived oral proficiency (PPROF)	FLSA	-0.192***
Years of studying English (Years)	FLSA	-0.064
Perceived effectiveness of the use of social media (SMED)	FLSA	-0.006

Note: Significance level: ** p < 0.010, *** p < 0.001

The direct effect of independent variables exposure to English (β = -0.211, p < 0.001) on foreign language speaking anxiety was negative and significant. Attitude towards learning English (β = -0.200, p < 0.001) had a negative and significant effect on foreign language speaking anxiety, perceived oral proficiency (β = -0.192, p < 0.001) had a negative and significant effect on foreign language speaking anxiety, years of learning English (β = -0.064, p > 0.001) had an insignificant effect on foreign language speaking anxiety which showed that it was not a strong predictor of foreign language speaking anxiety in our study sample.

The perceived effectiveness of the use of social media (β = -0.006, p > 0.001) on foreign language speaking anxiety had an insignificant effect which presented that it is not a significant predictor of foreign language speaking anxiety. The R- square value for this structural model is 0.22. This represented that individual learner variables or independent variables explained the variance in foreign language speaking anxiety by about 22% in the sample.

The Hayes process using the AMOS plugin was used in order to analyze full or partial mediation in our study sample. In the first path, the total effect (sum of direct and indirect effects) of years of learning English on foreign language speaking anxiety through mediator perceived competence was insignificant (total effect = -0.013, p > *0.001*) as the conditional indirect effects for both paths of years of learning English were found to be insignificant as mentioned above. Therefore, it can be concluded that there was neither full mediation nor partial mediation and years of learning English was not found to be a significant predictor of foreign language speaking anxiety and perceived competence. In the second path, the total effect of exposure to English on foreign language speaking anxiety through the mediator variable perceived competence was significant (total effect =-.028, p < *0.001*) and according to Hayes process, the conditional indirect effects for both paths were significant.

Thus, it confirmed the existence of partial mediation. In the third path analysis, the total effect of perceived effectiveness of the use of social media on foreign language speaking anxiety through mediator perceived competence was significant (total effect = - .052, p < *0.001*). According to the Hayes process, the conditional indirect effect of perceived effectiveness of the use of social media was found to be significant for mediator perceived competence but insignificant for foreign language speaking anxiety.

Therefore, it confirmed the full mediation and indicated that perceived effectiveness of the use of social media is a significant predictor of perceived competence. The fourth path analysis represented that the total effect of attitude towards learning English on foreign language speaking anxiety through mediator perceived competence was significant (total effect = -.031, p < 0.001) and there existed partial mediation according to Hayes process. In the fifth path analysis of mediation in Hayes process, the total effect of perceived oral proficiency on foreign language speaking anxiety through mediator perceived competence was significant (total effect = -.073, p < 0.001).Therefore, the Hayes process confirmed partial mediation.

According to the Hayes process, the conditional indirect effects of our study's data for paths (EXPP →COM →FLSA, ATT →PCOM →FLSA, PPROF →PCOM →FLSA) confirmed partial mediation whereas (YEARS →PCOM →FLSA) no mediation and (SMED →PCOM →FLSA) confirmed full mediation in the model (see Table 9). Thus, H1b, H2b, H3b, H5b were supported whereas H4b was not supported.

Table 9.
Mediation analysis (indirect effects) employing the Hayes process.

Path	Estimate
YEARS →PCOM →FLSA	-0.013
EXPP →PCOM →FLSA	-0.028***
SMED →PCOM →FLSA	-0.052***
ATT→PCOM→FLSA	-0.031***
PPROF →PCOM →FLSA	-0.073***

Note: Significance level:*** $p < 0.001$.

RQ-3: Moderating effect of parental education status on perceived competence and foreign language speaking anxiety.

In the third step of the structural model (research question 3), moderation mediation effect was tested. For the moderation mediation analysis, the AMOS 22 version was used and bootstrapping results were conducted in AMOS 22. In the current proposed model, perceived oral proficiency, attitude towards learning English, perceived effectiveness of the use of social media, exposure to English and years of learning English are the independent variables whereas perceived competence is the mediator and foreign language speaking anxiety is the dependent variable while parental education status is the moderator variable. It was hypothesized that parental education status moderates the relationship between perceived competence and foreign language speaking anxiety. The interaction term (perceived competence x parental education status) (PCOM) x (PEDU) was developed in order to evaluate the moderator's impact. All latent factors were converted into observed factors or variables by obtaining the mean values of each response. Figure 4 represents the conceptual diagram of moderation mediation analysis.

Table 10.
Moderate mediation effect on foreign language speaking anxiety.

Predictor	Outcome	Std. beta	R-square
Perceived competence (PCOM)	FLSA	-0.057	0.22***
Parental education status (PEDU)	FLSA	-0.160***	
Perceived competence (PCOM)x Parental education status (PEDU)	FLSA	-0.279***	(There is a significant effect on moderated mediation).

Note : Significance level: *** $p < 0.001$.

The results in Table 10 indicates that the interaction term between two predictor variables parental education status and perceived competence has a negative and significant effect on foreign language speaking anxiety (β = -0.279, $p < 0.001$). The R- square value of the model was 0.22 which demonstrated that approximately 22% of the variation in foreign language speaking anxiety can be explained by this moderated mediated relationship. Thus, it confirmed the hypothesis H6 PCOM x PEDU → FLSA in our study.

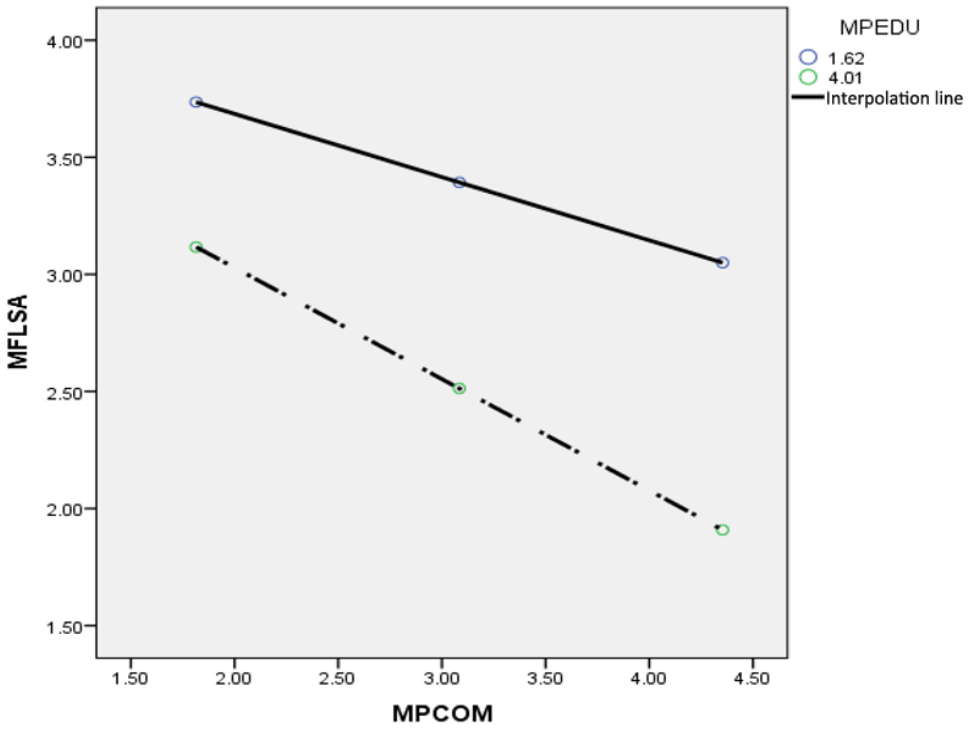

Figure 4.
The conditional effect of the moderator on FLSA.

Figure 4 demonstrates the conditional effect of the moderator on foreign language speaking anxiety. The graph was drawn between perceived competence (independent here) and foreign language speaking anxiety (dependent) whereas the high and low effect of parental education status (moderator) was analyzed. The graph represents that there was an interaction between the conditional effect of the low and high values of the moderator (taking the one standard deviation from the mean value of the moderator = *-1SD*+mean+*1SD*). It was found that the perceived competence effect was not that high and significant on foreign language speaking anxiety in our study sample but due to parental education status as it got high the effect of interaction on foreign language speaking anxiety became highly significant and negative and foreign language speaking anxiety got low too thus, our hypothesis H6: PCOM x PEDU → FLSA was accepted in our study's sample.

Table 11.
Summary of the hypotheses testing results of the structural model.

Hypothesized path / Relationship	Path Coefficient (β)	S. E	Critical ratio (CR	P	Hypothesis supported
H1a: EXP → FLSA	-0.240	0.056	-4.123	***	Accepted/ -
H1b: EXP → PCOM→ FLSA	0.143	0.053	2.594	0.009	Accepted/ +
H2a: ATT → FLSA	-0.232	0.057	-3.958	***	Accepted/ -
H2b: ATT → PCOM→ FLSA	0.157	0.054	2.819	0.005	Accepted/ +
H3a: PPROF → FLSA	-0.264	0.062	-4.338	***	Accepted/ -
H3b: PPROF → PCOM→ FLSA	0.358	0.060	5.971	***	Accepted/ +
H4a: YEARS → FLSA	-0.078	0.056	-1.375	0.169	Not supported
H4b: YEARS → PCOM→ FLSA	0.068	0.053	1.238	0.216	Not supported
H5a: SMED → FLSA	-0.055	0.061	-0.945	0.345	Not supported
H5b: SMED → PCOM→ FLSA	0.244	0.060	4.253	***	Accepted/ +
H6: PCOMxPEDU → FLSA	-0.279	0.011	-5.504	***	Accepted/ -

Note: If $p \leq 0.05$ is significant and *** $p \leq 0.001$.

Table 11 presents the results of the overall structural model indicated that the hypothesized relationships were significant, testified and confirmed the proposed hypothesis H1a, H2a, H3a, Hb1, Hb2, Hb3, H5b and H6 are supported in our study sample whereas H4a, H4b and H5a are not supported.

7. Discussion

This section discusses the findings related to research studies, the obtained results and compares them with previous studies in existing literature and supporting theories. The main objective of our study was to identify and test the predictive and direct effect of individual learner factors on the foreign language speaking anxiety of Chinese EFL university learners by using a structural equation modeling approach. It is observed in H1a that in Chinese EFL university learners, the direct effect of exposure to English on FLSA is found to be significant. Chinese EFL university students agreed upon the fact that maximum exposure to English and comprehensible input is vital and essential for overcoming the speaking anxiety factor and developing good communication skills. The findings supported the prior studies empirically and theoretically [27]. This shows the benefit of language acquisition in an authentic environment when the learners use their computers at home, watching a movie or tv series or playing a game, they might catch words and phrases and use them in daily conversation and in the future. Nevertheless, exposure to the target language plays a key role in the EFL university learners' language speaking skills and TL production. The findings revealed a strong effect of exposure to English on foreign language speaking anxiety in Chinese EFL university leaners hence, speaking anxiety can be mitigated when there is maximum exposure to English in and out of class and social interaction with speakers of the target language.

For the second hypothesized relationship H2a, the effect of a positive attitude towards learning English on foreign language speaking anxiety is found to be significant. Chinese EFL university learners were found to be intrinsically and extrinsically motivated to learn English as the positive attitude of learning English has a strong impact on foreign language speaking anxiety and this confirmed the prior studies empirically and theoretically [28]. Their responses show that they want to learn and speak English to secure good job opportunities, pass proficiency exams, travel abroad and have a good professional career. To sum up, their short-term goal is to get linguistic knowledge and proficiency for various exams and their long-term goal is to develop good and effective communication skills that will help mitigate speaking anxiety.

The obtained results of H3a indicated that the findings of this study are in line with past empirical studies in the Chinese context: if their proficiency is high, they are more exposed to target language, motivated, able to express well in English and can talk without any difficulty in English, and their anxiety in speaking can be overcome.

For the fourth hypothesized relationship between years of learning English and foreign language speaking anxiety H4a, mixed results have been observed with regards to years of learning English and foreign language speaking anxiety and the relationship between these two variables is insignificant as Chinese students have less exposure to the English language and the number of years spent in learning English are less too and thus, they perceive these factors not as important as practicing English is important both in academic and non-academic settings.

The fifth hypothesis H5a revealed inconsistent findings about the negative correlation between anxiety when speaking a foreign language and the perceived effectiveness of using social media. The finding of this study is in line with other empirical studies by Ibna Seraj and Oteir [29]. In Chinese EFL university learners, the hypothesized relationship between

perceived effectiveness of use of social media and foreign language speaking anxiety has been found to be insignificant. There may be few reasons for this insignificant relationship. First of all, China is an expanding circle country where English is deemed a foreign language which means that unlike English speaking and many western countries, China lacks English speaking environment. The majority of Chinese EFL university learners practice English either in class or oral presentations and the duration of class is maximum 40 to 45 minutes. The finding of this study contradicts the previous empirical study in which a significant relationship was found between the use of social media and language anxiety, Chinese EFL students were anxious to talk with native speakers. However, the practice of chatting and speaking in English helped them to mitigate their anxiety about the target language and speaking [30].

For testing mediation, perceived competence as a mediator between exposure to English and foreign language speaking anxiety was used. H1b supported the prior studies theoretically and empirically [9]. The obtained results of H1b indicated that the total effect of exposure to English on foreign language speaking anxiety through perceived competence was found to be significant in Chinese EFL university learners and the findings indicated the existence of partial mediation. Hence, perceived competence has been deemed a significant factor in interacting with variables in exposure to English and foreign language speaking anxiety.

In the mediating effect, the total effect of attitude towards learning English on foreign language speaking anxiety through mediator perceived competence is found to be significant in H2b and this finding is consistent with Sultan [31] study that perceived competence is a significant predictor of foreign language speaking anxiety and findings indicate the existence of partial mediation.

For the third hypothesis H3b, a positive relationship was found between perceived oral proficiency and perceived competence in Chinese EFL university learners. The findings reveal that Chinese EFL university learners perceived oral proficiency has a strong impact on their perceived competence which supports the results theoretically. It indicates that perceived competence mediates the relationship between perceived oral proficiency and foreign language speaking anxiety mirroring the prior studies [31].

In H4b, the years of learning English were found to be insignificant and it did not make any difference in perceived competence, this inconsistent result is also consistent with past empirical studies [31].

In Chinese EFL university learners, the mediator's perceived competence was found to be insignificant and did not mediate the relationship between years of learning English and foreign language speaking anxiety. It's possible that Chinese learners view proficiency in Chinese as a more important indicator of their success than proficiency in a second language given that Chinese is the primary language of instruction in many Chinese universities rather than English. This could be because they are shy and are afraid of making a fool.

The obtained results of testing the fifth hypothesis H5b provided evidence on the positive and significant relationship between perceived effectiveness of the use of social media and foreign language speaking anxiety through mediator perceived competence in Chinese EFL university learners which is consistent with prior studies [23].

The obtained results of H6 indicated that the interaction term (perceived competence x parental education status) had a negative and significant effect on the foreign language speaking anxiety of Chinese EFL university students. Hence, the hypothesized relationship (H6) of the moderation effect supported the finding of this study theoretically and empirically. The finding revealed that parents and their educational status can play an important role in encouraging, motivating and developing a positive attitude in learners towards second or foreign learning and speaking.

8. Conclusion

The primary finding of the current research is that speaking anxiety does exist in class and out of class and it can cause a detrimental effect on EFL Chinese university learners' communication and speaking skills due to a lack of confidence, speaking practice, lack of exposure and interaction. The EFL Chinese teachers are urged to focus on developing confidence in their EFL university students by assigning them various oral simple tasks as it will boost their confidence and constant interaction with more knowledgeable others, exposure and practice will enhance their speaking performance and they will feel more confident about their linguistic and English competence.

8.1. Research Contribution

Theoretically, this study has proposed a full latent structural model among individual learner factors and foreign language speaking anxiety based on the socio-cultural theory of Vygotsky within the context of China and this would be helpful to future scholars and researchers in applying the proposed model to their own study context. Methodologically, our study used structural technique to test hypothesized relationships. Thus, this research provides several insightful practical implications for EFL teachers and policymakers.

9. Limitations and Future Research

Every research study has its own limitations and this study was no exception. The sample of the current study was limited to only one public sector university in Wuhan (N=306) which was fairly small. Moreover, the direct and indirect effect of years of learning English on foreign language speaking anxiety was found to be insignificant nevertheless, this result does not imply that years of learning English play no role in mitigating speaking anxiety and improving perceived competence rather it reveals that measuring years of learning English needs more than self-reported surveys to be adequately measured and using interviews might give a more comprehensive picture and also the sample size may have been insufficiently representative of the university students in China as they were recruited only from one university. Thus, it could be argued that this sample lacked representativeness. Further studies are required to assess the foreign language

speaking anxiety model using different samples and conduct a comparative study between English majors and non-English majors in China and in other non-native settings.

Future research is needed to examine the relationship between actual proficiency, perceived proficiency, and speaking anxiety because the current study was unable to measure the actual proficiency score. Additionally, a longitudinal study is needed to review the relationships between individual learner variables and speaking anxiety.

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