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A Correlational Study of University Students' Foreign Language Learning Anxiety and Academic Achievement in the Chinese Context

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ABSTRACT

The correlation between foreign language learning anxiety (FLLA) and academic achievements (ACH) is an oft-researched topic. It is, especially, applicable when learning English as a foreign language (FL). As such, the present study examined the correlation between the FLLA that students majoring in English, Japanese, Arabic, Korean, Spanish, and French at an international studies university in China experienced and their ACH. The results of the study indicate that the students experience moderate levels of FLLA. An insignificant difference was observed between the level of FLLA that female and male students experience. However, a significant difference was observed between the level of FLLA that the students experienced depending on their majors. More specifically, students majoring in Korean experienced the most foreign language classroom anxiety (FLCA) across all the examined dimensions, namely, communication apprehension (CA), academic anxiety (AA), and classroom anxiety (CN). Meanwhile, students majoring in French experienced the least CA and CN, while students majoring in English experienced the least AA. Apart from that, a significantly negative correlation was observed between the students' exam scores (ES) and their levels of FLCA. Therefore, the findings of the present study can be used to develop high-quality foreign language learning (FLL) education in China. The implications of the present study's findings are also discussed.

Keywords: Academic Achievement; Foreign Language Learners; Foreign Language Learning Anxiety

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1. Introduction

In 2022, the National Mental Health Assessment and Development Center of the Institute of Psychology, Chinese Academy of Sciences conducted a mental health survey among nearly 80000 college students aged 15–26 across 31 provinces under the Central Government. The report indicated that only half of the university students were free from the risks of anxiety, with 54.72% being anxiety-free. Regarding the sources of stress among university students, a heavy academic workload stood out as one of the primary stressors. This is because the intensifying competition in academics and employment, often referred to as involution, has led to a universal sense of anxiety among university students^[1]. Foreign language learning is a complex task that requires not only mastery of phonetics, vocabulary, and grammar, but also overcoming emotional barriers. Anxiety, as a common emotional response, is considered a hindrance to second language acquisition, leading to a phenomenon where students, despite years of study, are unable to speak English as a foreign language (FL), a condition called “*mute English*”. This phenomenon is not limited to English learning, but is prevalent in the learning of FLs in general, which can collectively be termed “*mute foreign language*.” Anxiety not only affects a student’s ability to speak an FL, but their level of listening, speaking, reading, writing, and translating as well. Therefore, it is critical to examine foreign language learning anxiety (FLLA) as it not only inhibits students’ learning and use of the FL, but the learning process^[2]. Botes, Dewaele, and Greiff^[3] found that FLLA has a negative impact on the academic levels of listening, speaking, reading, and writing in an FL. Liu^[4] reported that foreign language classroom anxiety (FLCA) is the primary cause of negative test performance. Meanwhile, MacIntyre^[5] states that “*Propensity to reach one’s full potential as a language learner is partially determined by affective variables such as anxiety*” (p. 96). Apart from that, Javanbakht and Hadian^[6] propose that anxiety is a factor that may explain differences in the reading comprehension of FL learners as it significantly impacts their reading.

2. Literature Review

2.1. Theoretical Framework

The present study applied Horwitz et al.’s^[7] theory of foreign language anxiety (FLA). Anxiety is defined as the subjective experience of worry, tension, and apprehension related to the autonomic nervous system response. Horwitz et al.^[7] state that FLA is, “*A phenomenon related to, but distinguishable from, other specific anxieties*.” (p. 129). They also defined FLA as “*a distinct complex of self-perceptions, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process*.” Horwitz et al.^[7] (p. 128). Indeed, “*the emotions evoked by Language Anxiety go much deeper than a simple combination of anxieties*”^[7] (p. 41). They also propose that FLA should be seen as situation-specific anxiety resulting from the uniqueness of formal FLL, rather than merely as a case of general classroom anxiety (CN) being transferred to FLL. This was based on their clinical experience with FL students in university classes during their teaching process, as well as feedback from 30 students attending a language learning support group. As Horwitz et al.^[7] stated, studying FLs involves self-concept and self-expression more than any other subject. This characteristic sets the anxiety associated with FLL apart from other types of academic anxiety (AA). While it is not unusual to find students who excel in other subjects frustrated by FLL, it is possible that students who suffer from general anxiety are more likely to suffer from FLA. Consequently, there must be a special aspect of FLL that causes anxiety in certain pupils.

Horwitz et al.^[7] reported that adult FL learners are mature in thoughts and ideas, but immature in the FL linguistic system through which to voice them. These learners tend to worry about negative evaluations as they are uncertain over what they need to say in the FL. Additionally, the unavailability of assessments in language classes also leads to FLLA as students will be tested on the proficiency of the language that they are learning. Botes et al.^[3] surmise that FLCA is both a habitual anxiety that occurs whenever the learner is confronted with language learning, yet momentary as it only pertains to specific instances.

Moreover, Horwitz et al.^[7] further divided FLCA into communication apprehension (CA), fear of negative evaluation, and test anxiety. They define CA as “*a type of shyness*

characterized by fear of or anxiety about communicating with people” (p. 127) and fear of negative evaluation as “*apprehension about others evaluation, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively*” (p. 128). Meanwhile, test anxiety is believed to encompass the tests and examinations of the language learning process and is defined as “*a type of performance anxiety stemming from a fear of failure.*” (p. 128). Horwitz et al.^[7] describe these three dimensions as “*useful conceptual building blocks*” for the development of FLCA. However, Horwitz^[8] warns that reducing FLCA to these three building blocks is a misreading of the original paper and a “*false premise*” (p. 38). Therefore, the definition of FLCA can be assessed using these three factors, but should not be limited to them.

2.2. The Effect of Foreign Language Classroom Anxiety (FLCA) on Foreign Language Learning (FLL) Achievement

The correlation between FLCA and academic achievement (ACH) is an oft-researched topic. Multiple studies have shown that FLA affects the effectiveness of FLL^[3, 4, 9–15] Horwitz^[16] observed consistently and moderately negative correlations between FLCA and ACH. Cheng et al.^[17], on the other hand, call this correlation a “*vicious circle*” (p. 437).

Botes et al.^[3] conducted a sweeping literature and meta-analysis of the correlation FLCA and ACH. The participants comprised 5137 female and 5464 male students majoring in English, Turkish, French, Arabic, Spanish, German, Japanese, Korean, Mandarin-Chinese, and Persian. The findings indicated a moderately negative correlation between the students’ FLCA and their ACH. More specifically, between their FLCA and written ACH as well as listening. It was proposed that it would be worthwhile to examine the causality between FLCA and ACH in the future.

In research related to foreign language learning anxiety, He^[10] investigated students’ anxiety while speaking English and found FLCA is a significant cause of Chinese students’ less-than-satisfactory English FLL achievements. Liu^[4], similarly, examined 934 university freshmen and concluded that FLCA significantly negatively correlated with English test performance.

Bai^[18] examined the learning anxiety of three teachers and 300 1st- to 3rd-year junior high school students in

Zhuang ethnic minority areas and concluded that most of the students in these regions experience moderate levels of anxiety. Further research revealed that learning anxiety, students’ years of study, and gender significantly correlated. A negative correlation was also observed between English learning anxiety and English ACH.

In addition, The findings of Saito and Samimy^[19] corroborates that of extant studies on anxiety when learning commonly taught languages. They found that FLA may negatively impact the performance of Japanese learners. The present study, however, found that the influence of FLA becomes more significant as instructional levels of a Japanese learner increase.

Cao and Li^[14] explored the predictive roles of FLA, pleasure, and boredom on the ACH of students majoring in Thai in China. They found that the students experienced moderate levels of FLA. Moreover, there was a significantly negative correlation between their FLA and ACH.

Simultaneously, Javanbakht and Hadian^[6], on the other hand, investigated the effects of test anxiety on the reading test performance of 34 intermediate-level male students in Iran. The study found that students did not feel anxious during the reading test and concluded that there was no correlation between test anxiety and reading test performance.

Further, Zheng and Cheng^[20] proposed three anxiety factors that explained 43.14% of the variance in language learning, with cognitive test anxiety negatively predicting ACH. Foreign language classroom anxiety (FLCA), however, was not a significant predictor of test performance. Furthermore, the interviews reported lower levels of anxiety than surveys, highlighting the need for targeted anxiety management in language education.

2.3. Gender- and Major-Based Differences in Foreign Language Classroom Anxiety (FLCA)

In 2022, a survey conducted by the National Mental Health Assessment and Development Center at the Institute of Psychology, Chinese Academy of Sciences found that male students have a slightly higher risk of depression than female students, while female students have a slightly higher risk of anxiety than male students, both of which warrant attention.

In the field of FLCA research, gender has garnered

significant attention, with multiple studies reporting conflicting findings on the correlation between FLCA and gender^[4, 11–13, 15] Multiple studies suggest that female students experience higher levels of FLCA than male students. Zhan and Xu^[12] found that female students' FLLA in a single point of contact (SPOC) model is higher than that of male students, with CN significantly higher in females than in males.

Furthermore, Piniel and Zólyomi^[11] used the foreign language classroom anxiety scale (FLCAS) to review 48 extant studies and, potentially, identify gender-based differences in language anxiety. They found that, although female learners experience higher levels of language-related anxiety, gender-based differences were not statistically significant. Liu and Hong^[21] examined the CN that 380 male and 329 female English learners experienced in Grades 4 to 9. They found a significant gender-based difference in the anxiety levels that male and female learners reported experiencing in Grade 4. More specifically, female learners reported feeling significantly more anxious when speaking English in class than their male counterparts. He et al.^[22] explained that gender-based difference is one reason to examine students' FLCA. They found that male learners suffer from more severe anxiety than their female peers when confronted with translation tasks. Meanwhile, Bai^[18] examined the level of learning-related anxiety of three teachers and 300 1st- to 3rd-year junior high school students in ethnic minority areas and found a significant correlation between learning anxiety and the students' grades, gender, and ACH. Furthermore, female learners reported lower levels of anxiety than male learners.

Conversely, numerous studies report that male and female students experience similar levels of FLCA. For instance, Ma^[15] examined classroom learning anxiety among 824 university students learning English *via* a blended teaching model at three different institutions in the western region. The study instrument was a questionnaire that had been adapted from Horwitz's FLCAS. The study revealed that the students experienced relatively high levels of CN, with no significant differences between male and female students. However, significant differences were noted in the anxiety levels of students with varying levels of English proficiency. Zhang^[13] examined the impact of gender and the amount of time spent studying English on a daily basis on the level of learning anxiety and ACH experienced by 22 male and 22 female students. The study was conducted *via*

surveys and interviews. The results indicated that there were no significant differences in the level of learning anxiety experienced by both genders. However, different levels of ACH correlated with varying amounts of time spent studying English on a daily basis. A correlation was also observed between the level of learning anxiety and ACH. Kobul and Saraçoğlu^[23] also reported no significant gender-based differences in FLCA. However, when the participants' scores were compared, the English language graduate teachers had significantly lower levels of teaching-related anxiety.

Foreign language classroom anxiety (FLCA) is attributable to various causes. Price^[24] maintains that the level of difficulty of some FL classes; students' personal perceptions of their own language aptitude; certain personality variables, such as perfectionism or fear of public speaking; and stressful classroom experiences are all possible causes of anxiety. Liu^[4] examined the correlation between the FLCA levels and ACH of 934 university-level freshmen and found that the correlation between the FLCA level and ACH of the students was significantly different depending on which disciplines they were studying. However, Piniel and Zólyomi^[11] proposed that neither age nor target language, regional context, or, in the case of university students, their majors, influence this correlation.

Based on the above, one factor influencing FLCA is the inherent difficulty of FLs. This is because the level of difficulty varies for the learners of each FL. For instance, Arabic is generally considered more challenging than other languages. Therefore, it is safe to assume that FLCA levels will differ among the learners of different languages.

2.4. Research Questions

- (1) To what extent do students suffer from FLCA?
- (2) Is there a significant difference in the level of FLCA experienced by students depending on their gender?
- (3) Is there a significant difference in the level of FLCA experienced by students depending on their majors?
- (4) Is there a significant correlation between ACH and FLCA?

2.5. Research Hypothesis

Hypothesis 1. *There is a significant difference in the level of FLCA experienced by students depending on their gender.*

Hypothesis 2. *There is a significant difference in the level of FLCA experienced by students depending on their majors.*

Hypothesis 3. *There is a significantly negative correlation between ACH and FLCA (Figure 1).*

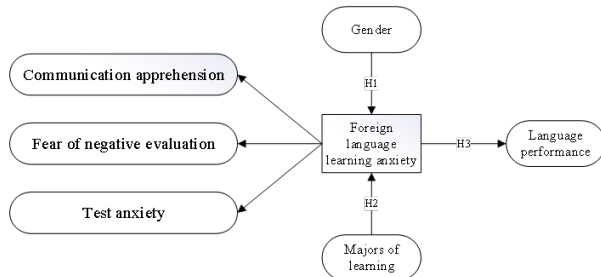


Figure 1. The framework of the present study.

3. Research Methodology

Horwitz et al.'s^[7] FLCAS-based questionnaire was used to examine the FLLA and ACH of university-level FL students in China. The FLCAS was selected due to its high internal consistency ($\alpha = 0.93$)^[7] and prior use on participants from various language backgrounds, such as Persian^[25], Thai^[26], Arabic^[27], and Chinese^[12]. The questionnaire comprised two sections. Section 1 collected the participants' demographic details, such as (i) gender, (ii) academic year of study, (iii) major, and (iv) previous semesters' final exam scores. Meanwhile, Section 2 comprised 33 items on FLCA, of which Items 11, 18, 24, 28, and 32 were reverse items. IBM® SPSS® 22 was used to analyse the data that had been gathered from total of 736 university-level FL students.

The participants were informed that the information provided in the questionnaire would be kept confidential and used exclusively for research purposes. They were given the option to withdraw from completing the questionnaire from the outset. All the participants were adults.

Differing factor structures underlying FLCA have been found in validation studies. Park and French^[28] noted that the possible reason for the variation in factor analysis results of the FLCAS is that the factor structure may differ across sample groups depending on proficiency levels and learning contexts. Therefore, exploratory factor analysis was applied to identify the factors of FLCA in the present study.

4. Results

The results of the KMO and Bartlett's test of sphericity indicate that the FLCAS is suitable for factor analysis (KMO = 0.964, $p < 0.001$). An exploratory factor analysis was conducted using the principal component analysis method, which eliminated 32 items that had factor loadings < 0.50 , resulting in the extraction of four factors. Their cumulative variance explained was 61.958%, which meant that it could comprehensively summarise the characteristics of the data.

Table 1 presents the results of the rotated component matrix after misclassified and unclear items were removed, namely, Items 14, 23, 29, and 33. A total of four components were extracted as each item had factor loadings > 0.5 across the dimensions. Notably, 11 items (AQ1-4, AQ7-10, AQ12, AQ13, and AQ15) from Component 1 and 10 items (AQ16, AQ19-22, AQ25-27, AQ30, and AQ31) from Component 2.

Table 1. The rotated component matrix.

	1	2	3	4
AQ1	0.693	0.223	0.255	0.209
AQ2	0.734	0.242	0.217	0.066
AQ3	0.553	0.320	0.383	0.054
AQ4	0.675	0.339	0.259	0.036
AQ5	0.468	0.355	0.594	0.124
AQ6	0.426	0.225	0.641	0.007
AQ7	0.626	0.335	0.229	-0.045
AQ8	0.726	0.366	0.106	0.021
AQ9	0.789	0.331	0.066	-0.042
AQ10	0.653	0.367	0.038	-0.025
AQ11	-0.178	0.018	-0.246	0.562
AQ12	0.555	0.460	0.189	-0.013
AQ13	0.573	0.325	0.290	0.066

Table 1. Cont.

	1	2	3	4
AQ14	0.481	0.473	0.323	0.125
AQ15	0.648	0.475	0.068	-0.027
AQ16	0.445	0.558	0.233	-0.007
AQ17	0.175	0.435	0.687	0.087
AQ18	0.253	0.030	-0.053	0.701
AQ19	0.163	0.622	0.413	-0.022
AQ20	0.473	0.585	0.193	-0.024
AQ21	-0.142	-0.663	-0.395	0.050
AQ22	0.368	0.702	0.185	-0.011
AQ23	0.519	0.566	0.071	-0.012
AQ24	0.217	-0.039	-0.011	0.745
AQ25	0.380	0.693	0.063	-0.004
AQ26	0.293	0.781	0.262	0.048
AQ27	0.453	0.713	0.108	0.086
AQ28	-0.019	0.057	0.271	0.703
AQ29	0.512	0.669	-0.038	0.021
AQ30	0.346	0.723	0.190	0.039
AQ31	0.367	0.696	0.184	0.099
AQ32	-0.133	-0.004	0.148	0.703

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 9 iterations.

Additionally, five items (AQ11, AQ18, AQ28, AQ32, and AQ24) from Component 3 and three items (AQ5, AQ6, and AQ17) from Component 4. Furthermore, the common factor variance values for this column were all >0.5, indicating a high level of acceptability.

The extracted four components accounted for a cumulative explained variance of 62.26%, demonstrating good explanatory power for the original data. Specifically, Component 1 had an eigenvalue of 13.089, explaining 45.133% of the variance; Component 2 had an eigenvalue of 2.442, explaining 9.421% of the variance; Component 3 had an eigenvalue of 1.489, explaining 5.135% of the variance; and Component 4 had an eigenvalue of 1.037, explaining 3.575% of the variance.

Figure 2 displays the scree plot eigenvalue of each component in the initial solution plotted. The last sizable drop occurred between the third, fourth, and fifth components, suggesting that there should be three to five common factors. Therefore, using the first four components was a reasonable choice.

The dimensions of FLCAS were examined according to multiple studies^[7, 13, 29, 30] Communication apprehension (CA) encompasses feelings of embarrassment, lack of confidence, and nervousness that students may experience when speaking in class, answering questions, or interacting with

others in English. Academic anxiety (AA) includes the inferiority complex that students feel when comparing their level of English proficiency to that of their peers, as well as the unease and worry about keeping up with the curriculum and achieving the desired ACH. Classroom anxiety (CN) involves the stress that students feel at the thought of, potentially, having to participate in the classroom, interact with the teachers, or panic when they cannot understand the teachers' explanations during lessons. Therefore, the four factors were CA, AA, CN, and language confidence (LC).

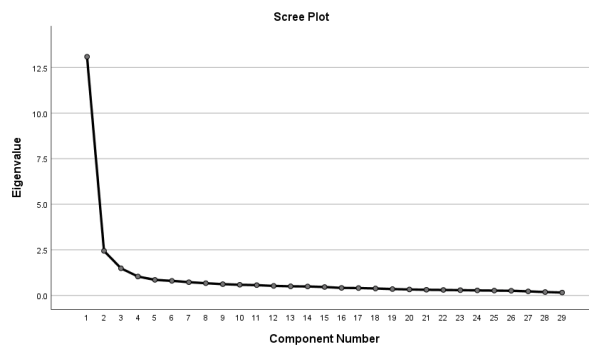


Figure 2. A scree plot of the component number.

The Cronbach alpha of the questionnaire ranged from 0.715–0.935, which was satisfactory as it fell between 0.65–0.95^[31] and indicated good internal consistency and reliability. Therefore, the verified questionnaire can be further

used by future studies on this topic.

Table 2 depicts the overall degree of FLCA ($M = 2.864$, $SD = 0.588$). Based on the standard Oxford and Burry-Stock^[32] for a five-point scale, high levels are categorised as 3.5–5.0, moderate levels as 2.5–3.4, and low levels as

1.0–2.4. The findings of the present study could be interpreted as a moderate level. Furthermore, CA ($M = 2.956$, $SD = 0.820$), AA ($M = 2.757$, $SD = 0.628$), LC ($M = 3.110$, $SD = 0.590$), and CN ($M = 2.475$, $SD = 0.833$) were all at moderate levels.

Table 2. The mean and standard deviations (SD) of the four factors.

	CA	AA	LC	CN	Total
Mean	2.9556	2.7566	3.1105	2.4748	2.8639
N	735	735	735	735	735
SD	0.81997	0.62801	0.59028	0.83316	0.58769

Note: CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety, SD = Standard deviation.

Tables 3 and **4** also show that there were no significant differences in the level of CA that male ($M = 32.22$, $SD = 9.81$) and female ($M = 32.58$, $SD = 8.84$) students experienced; the level of AA that male ($M = 26.98$, $SD = 6.98$) and female ($M = 27.69$, $SD = 6.11$) students experienced, and the level of CN that male ($M = 7.77$, $SD = 2.76$) and

female ($M = 7.34$, $SD = 2.43$) students experienced. However, significant differences were observed in the level of LC that male ($M = 14.82$, $SD = 3.287$) and female ($M = 15.72$, $SD = 2.85$) students experienced. More specifically, female students reported experiencing higher levels of LC than their male counterparts.

Table 3. The independent sample T-test of foreign language classroom anxiety (FLCA) in terms of gender.

	t	df	Sig.	Mean Difference
CA	-0.463	734	0.644	-0.39515
AA	-1.152	734	0.250	-0.68490
LC	-3.224	734	0.001	-0.89472
CN	1.874	734	0.061	0.44275
Total FLCA	-0.950	734	0.343	-1.53202

Note: CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety.

Table 4. The group statistics of foreign language classroom anxiety (FLCA) levels in terms of gender.

	Gender	N	M	SD	Std. Error Mean
CA	Male	136	32.2206	9.81057	0.84125
	Female	599	32.5776	8.83764	0.36110
AA	Male	136	26.9779	6.98089	0.59861
	Female	599	27.6995	6.10826	0.24958
LC	Male	136	14.8162	3.28679	0.28184
	Female	599	15.7195	2.84637	0.11630
CN	Male	136	7.7721	2.76477	0.23708
	Female	599	7.3456	2.43080	0.09932
Total FLCA	Male	136	81.7868	18.85045	1.61641
	Female	599	83.3422	16.60886	0.67862

Note: SD = Standard deviation; CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety.

As seen in **Table 5**, the majors that the students were studying significantly affected their FLCA F ($df = 5$, 729) = 13.424, $P < 0.05$). Therefore, Hypothesis 1c was rejected. It also significantly affected their CA F ($df = 5$, 729) = 13.722,

$P < 0.05$); AA F ($df = 5$, 729) = 9.812, $P < 0.05$), and CN F ($df = 5$, 729) = 7.314, $P < 0.05$). However, the majors that the students were studying did not significantly affect their LC F ($df = 5$, 729) = 1.212, $P > 0.05$).

Table 5. The multivariate analysis of variance (MANOVA) results of the effect of majors.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Majors	CA	5145.457	5	1029.091	13.722	0.000	0.086
	AA	1829.796	5	365.959	9.812	0.000	0.063
	LC	52.812	5	10.562	1.212	0.302	0.008
	CN	219.217	5	43.843	7.314	0.000	0.048
	Total FLCA	18011.338	5	3602.268	13.424	0.000	0.085
a. R ² = 0.086 (Adjusted R ² = 0.080)							
b. R ² = 0.063 (Adjusted R ² = 0.057)							
c. R ² = 0.008 (Adjusted R ² = 0.001)							
d. R ² = 0.048 (Adjusted R ² = 0.041)							
e. R ² = 0.085 (Adjusted R ² = 0.078)							

Note: CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety.

As seen in **Table 6**, students majoring in Korean ($M = 81.875$), and English ($M = 80.221$). Meanwhile, students (94.111) reported the highest levels of FLCA, followed by majoring in French ($M = 79.800$) reported the lowest levels Japanese ($M = 91.870$), Spanish ($M = 82.350$), Arabic (M of FLCA).

Table 6. The means and standard deviations (SD) of the majors.

Dependent Variable	Majors	M	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CA	English	31.011	0.377	30.272	31.751
	Japanese	37.284	0.680	35.948	38.620
	Arabic	32.750	3.062	26.739	38.761
	Korean	37.444	2.887	31.777	43.112
	Spanish	31.200	1.936	27.398	35.002
	French	31.000	3.873	23.397	38.603
AA	English	26.669	0.266	26.148	27.190
	Japanese	30.364	0.480	29.422	31.306
	Arabic	26.625	2.159	22.386	30.864
	Korean	31.333	2.036	27.337	35.330
	Spanish	27.350	1.366	24.669	30.031
	French	27.400	2.731	22.038	32.762
CN	English	7.108	0.106	6.899	7.317
	Japanese	8.352	0.192	7.974	8.729
	Arabic	8.125	0.866	6.426	9.824
	Korean	8.667	0.816	7.064	10.269
	Spanish	7.700	0.547	6.625	8.775
	French	6.200	1.095	4.050	8.350
Total FLCA	English	80.221	0.712	78.823	81.619
	Japanese	91.870	1.287	89.344	94.397
	Arabic	81.875	5.792	70.505	93.245
	Korean	94.111	5.460	83.391	104.831
	Spanish	82.350	3.663	75.159	89.541
	French	79.800	7.326	65.417	94.183

Note: CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety.

The results of the data analysis indicate that there were no significant differences in the level of FLCA that male and female students experienced ($p > 0.05$) (**Table 5**). **Table 6** displays level of FLCA of the male ($M = 81.79$, $SD = 18.85$) and female ($M = 83.34$, $SD = 16.61$) students.

Students majoring in Korean ($M = 37.444$) also reported the highest levels of CA, followed by Japanese ($M = 37.284$), Arabic ($M = 32.750$), English ($M = 31.011$), and Spanish ($M = 31.200$), while students majoring in French ($M = 31.000$) reported the lowest levels of CA. Students majoring in Korean ($M = 31.333$) also reported the highest levels of AA, followed by Japanese ($M = 30.364$), Spanish ($M = 27.350$), and French ($M = 27.400$). Meanwhile, students majoring in Arabic ($M = 32.750$) and

English ($M = 26.669$) reported the lowest levels of AA.

Lastly, students majoring in Korean ($M = 8.667$) reported the highest levels of CN, followed by Japanese ($M = 8.352$), Arabic ($M = 8.125$), and Spanish ($M = 7.700$), while students majoring in English ($M = 7.108$) and French ($M = 6.2$) reported the lowest levels of CN.

As seen in **Table 7**, there was a significantly negative correlation between ACH and FLCA ($r = -0.273, P < 0.05$) as well as a significantly negative correlation between ACH and CA ($r = -0.257, P < 0.05$), AA ($r = -0.215, P < 0.05$), LC ($r = -0.086, P < 0.05$), and CN ($r = -0.290, P < 0.05$).

Table 7. The Pearson correlations between foreign language classroom anxiety (FLCA) and academic achievement (ACH).

		CA	AA	LC	CN	FLCA
ACH	Pearson Correlation	-0.257**	-0.215**	-0.086*	-0.290**	-0.273**
	Sig. (2-tailed)	0.000	0.000	0.019	0.000	0.000
	N	735	735	735	735	735

Note: **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). ACH = Academic achievement; CA = Communication apprehension; AA = Academic anxiety; LC = Language confidence; CN = Classroom anxiety; FLCA = Foreign language classroom anxiety.

5. Discussion

5.1. The Extent of Students' Foreign Language Classroom Anxiety (FLCA)

The findings indicate that the overall level of FLCA was moderate. Furthermore, all four dimensions of FLCA, namely, CA, AA, LC, and CN, were at moderate levels as well, which was consistent with the findings of Jee^[33], Ruan^[34], Zhan and Xu^[12] and Cao and Li^[14], but inconsistent with that of Ma^[15], who discovered high levels of classroom learning anxiety among 824 university-level English learners, and Ruan^[34], who discovered high levels of speaking anxiety among Arabic learners in China.

However, according to Stephenson^[35], moderate levels of FLLA may prompt language learners to adopt a positive attitude and engage with new learning tasks, while high levels of anxiety may encourage language learners to exhibit avoidance behaviours and shirk new learning tasks. Therefore, a moderate level of anxiety may bring learners positive motivations for their FLL.

Additionally, to reduce learners' FLLA, a blended teaching model could be used. Zhan and Xu^[12] found that blended SPOC-based teaching caused lower levels of FLLA than traditional teaching methods.

5.2. Gender- and Major-Based Difference in Foreign Language Classroom Anxiety (FLCA)

The results of the data analysis show that there were no significant differences in the FLCA levels of male and female

students. However, the mean and SD scores indicate that female students experience higher levels of FLCA than their male counterparts. These findings were consistent with that of Piniel and Zólyomi^[11], who explored potential gender-based differences in FLCA. They concluded that females experienced higher levels of FLLA, however, these gender-based differences were statistically insignificant. Similarly, Kobul and Saraçoğlu^[23], Zhang^[13], and Ma^[15] also reported no significant differences in the FLCA levels of both genders. Conversely, He et al.^[22], Liu and Hong^[21], and Zhan and Xu^[12], reported significant differences in the FLCA levels of both genders, with male learners experiencing severe levels of anxiety than their female peers when faced with translation tasks.

The findings of the present study also indicate that a student's major also significantly affects their level of FLCA. More specifically, students majoring in English, Japanese, Arabic, Korean, Spanish and French reported significantly higher levels of CA, AA, and CN. However, a student's major did not significantly affect their level of LC. Similarly, Kobul and Saraçoğlu^[23] reported that, when comparing learners' exam scores, they found that English language graduate teachers experienced significantly lower levels of teaching anxiety. Apart from that, students majoring in Korean consistently reported experiencing the highest levels of all FLCA dimensions. This could be because they were in different years of study. Meanwhile, students majoring in French reported experiencing the lowest levels of CA and CN, and students majoring in English reported experiencing the lowest levels of AA. According to Jee^[36], these differences

indicate that, as students progress in their study of Korean, their anxiety levels will increase. In terms of ACH, Jee^[36] reported that students who demonstrated high ACH during the first semester experienced more anxiety when learning Korean in the next semester. In terms of the influences of their self-efficacy and self-rated, Jee^[33] revealed that both variables of students majoring in Korean are found to be the best predictors of FLA levels.

5.3. Correlations Between Foreign Language Classroom Anxiety (FLCA) and Academic Achievement (ACH): The Influences of FLCA in Foreign Language Learning (FLL) Achievement

A significantly negative correlation was observed between students' ACH and FLCA, as well as between ACH and CA, AA, LC, and CN. This finding was corroborated by Horwitz^[37], who summarised that most studies report significantly or moderately negative correlations^[3, 10, 14, 18, 19]. The results were further confirmed by Cheng et al.^[17] (p. 437), who considers the correlation between FLCA and ACH a "vicious circle". However, Stephenson^[35] proposed that moderate levels of anxiety may prompt language learners to adopt a positive attitude and engage with new learning tasks. Nevertheless, they still would not be able to escape this "vicious circle".

On the other hand, this finding was inconsistent with that of Javanbakht and Hadian^[6] and Zheng and Cheng^[20] who proposed that FLCA levels are not a significant predictor of ACH.

5.4. Research Implication

The study of the correlation between FLLA and ACH has profound implications for both educational theory and practice. The results of the study can contribute to the broader theoretical understanding of anxiety within the context of education. By exploring the nature of anxiety in a foreign language learning environment, researchers can refine existing models of anxiety. For example, the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al.^[7] could be used as a basis for examining different types of anxiety (e.g., communication apprehension, test anxiety, fear of negative evaluation) and how they contribute to or

detract from learners' performance. Besides, the findings of the study could inform curriculum development, suggesting that language teachers should account for students' anxiety levels in instructional planning. For example, curricula could be designed with built-in opportunities for low-stakes assessments or interactive, anxiety-reducing activities (e.g., peer collaborations, role-playing, and other communicative tasks) to alleviate pressure and increase engagement.

6. Conclusions

The correlation between FLLA and ACH is an oft-researched topic. It was highly applied in English as an FL area, but not yet in multilingual FLL environments such as that in China. Hence, the findings of the present study have, somewhat, filled the gaps in this area.

Ma^[15] reported significant differences in the anxiety levels of learners with different levels of English proficiency. According to Zhang^[13], different levels of ACH correlated with varying amounts of time spent studying English on a daily basis. Kobul and Saraçoğlu^[23] reported that, when the participants' ACH were compared, it was found that the English language graduate teachers experienced significantly lower levels of teaching-related anxiety. Therefore, different levels of English proficiency, varying amounts of time spent studying English on a daily basis, and the major that they are studying could all influence a student's level of FLLA. To that end, future studies may further investigate the correlations between FLLA and ACH in a variety of non-native FLL contexts. Moreover, the findings of the study revealed that students majoring in Korean experienced the highest levels of all four FLCA dimensions. Therefore, future studies may examine the factors influencing FLLA as well as the sources of FLLA among students majoring in Korean, such as internal causes, such as limited language levels and related accumulation; not enough time and effort investment; low self-confidence; poor learning status; high goals and unrealistic expectations of one's self; or external causes, such as the complexity and difficulty of the language; pressure from peers, tutors, and parents; exam pressure; teaching (classroom questions and other activities) and teacher attitudes; academic pressure; lack of conducive language environment; lack of suitable learning materials; cultural conflicts; competition (achievement points); grading; student quota; and

unreasonable course settings^[34].

Lastly, the present study was conducted at an international studies university that offered different language majors in a province of China. As there are multiple international studies universities in the different regions of China, future studies may examine this population.

The findings of the present study provide insights into the quality of FLL education in China. As such the insights that it provides into students' anxiety levels may provide educators, policymakers, and students with information that can be used to improve ACH by reducing FLLA. The findings also emphasise the key role that students' majors, CA, AA, LC, and CN have in the FLL process.

Author Contributions

Conceptualization, X.D. and H.Y.; methodology, X.D.; software, X.D.; validation, X.D., and H.Y.; formal analysis, X.D.; investigation, H.Y.; resources, H.Y.; writing—original draft preparation, X.D.; writing—review and editing, H.Y.; supervision, X.D.; project administration, X.D.; funding acquisition, X.D. and H.Y. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

Some or all data, models, or code generated or used during the study are available from the corresponding author

upon request.

Conflicts of Interest

There are no conflicts of interest involved in this research.

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