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The predictive power of sociobiographical and linguistic variables on foreign language anxiety of Chinese university students¹

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article info:

Article history: Received 2 August 2019, Received in revised form 8 January 2020, Accepted 11 January 2020, Available online 11 January 2020

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System journal homepage: www.elsevier.com/locate/system

<https://doi.org/10.1016/j.system.2020.102207>

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Abstract

A large majority of studies have been conducted on foreign language anxiety (FLA) in the context of the classroom where interlocutors are teacher and peers, whereas fewer researchers have examined FLA beyond the confines of the classroom. The present study examined 1,031 Chinese university students' FLA in English and explored the links between it and several sociobiographical variables (i.e. gender, ethnic group affiliation, geographical background, and experience in travelling abroad) and sociobiographical and language variables (i.e. age of onset of acquisition, language achievement level, self-perceived oral competence, and frequency of language use). The results showed that geographical background, experience abroad, age of onset of acquisition, self-perceived oral competence, language achievement level, and frequency of language use were significantly linked with FLA. The findings suggest that FLA exists as much outside as inside the classroom but that the sources vary and

¹ Pre-print version of Yan Jiang & Dewaele, J.-M. (2020) The predictive power of sociobiographical and linguistic variables on foreign language anxiety of Chinese university students. *System*, [Doi: 10.1016/j.system.2020.102207](https://doi.org/10.1016/j.system.2020.102207)

that the nature of the experience may change as individuals outside the classroom have a greater sense of agency. The study also offers some pedagogical implications for Chinese EFL teachers.

Keywords: foreign language anxiety; communicative situations; Chinese university students; sociobiographical variables; language variables

1. Introduction

Foreign language anxiety (FLA) has been described as learners' "distress at their inability to be themselves and to connect authentically with other people through the limitation of the new language" (Horwitz, 2017, p. 41). So far, FLA has been "the most widely studied emotion in second language acquisition in the past four decades" (MacIntyre, 2017, p. 11). Most of the FLA research has focused on FL learners in the relatively artificial context of their language classroom where interlocutors are teacher and peers (see Gkonou, Daubney & Dewaele, 2017). The reason for this is probably practical rather theoretical. Indeed, it is easier for researchers to gather data from groups of relatively young learners enrolled in FL classes rather than from adults who are no longer exclusively "learners" but also actual users of the FL are who are spread out in the world. While it makes perfect sense to consider FLA in the classroom – the pedagogical implications are crucial- one should not forget that FLA does not cease to exist at graduation. In other words, once the learners also become FL "users" (cf. Dewaele, 2018a), they may continue to suffer from FLA. While the user-internal sources of FLA are likely to be unchanged (i.e. psychological dimensions, FL history and use – cf. Dewaele, 2017; Dewaele & MacIntyre, 2019), the user-external sources of anxiety may shift and new interactions may appear with user-internal variables. Using a FL with a large variety of interlocutors who do not necessarily share the same language profiles and may use or pronounce the FL in unexpected ways can be stressful. Our call for expanding research on FLA outside the school context is not new but it remains highly relevant. Woodrow (2006) argued that research on language anxiety 'should be expanded to reflect potential situations beyond the classroom that could trigger language anxiety' (p. 311). In a similar vein, Ross and Rivers (2018) have argued that it is vital to move 'the contextual focus away from the formal classroom environment toward the dynamic complexity of life outside the classroom' (p. 104). Indeed, the authors maintain that the overwhelming focus on emotions in the 'relatively structured environment of the formal classroom is problematic' (p. 103). It is essential for us to examine language users' FLA in the wider social -and multilingual- world (Dewaele, 2013; Ross & Rivers, 2018; Sevinç & Dewaele, 2018).

The argument to move the focus of FLA research beyond the classroom is particularly relevant in the Chinese context, where a lot of research has been carried out on anxiety in using English in the classroom (see Liu & Xiangming, 2019) partly because there were relatively few opportunities to observe English in authentic interactions outside the classroom. The situation is evolving quickly with the increasing internationalization of Chinese higher education. As a result, Chinese students are more likely to interact in English with international students coming to study in Chinese universities. English is also used as the formal medium of instruction in some programmes at Chinese universities as a way of promoting internationalisation (Kong & Wei, 2019; Zhao & Dixon, 2017). Chinese university students thus now have more chances to use their

English in various contexts and a greater likelihood of having to use English in their later professional life.

The present study, therefore, aims to examine Chinese EFL learners' FLA across five communicative situations (i.e. speaking English with friends, with classmates, with strangers, on the phone, and in public) and the links between their FLA and a series of variables such as ethnic group affiliation and geographical background, that have typically not been included in previous FLA research but that have been found to have an effect on anxiety in multilingual users of Chinese dialects and Putonghua (Jiang & Dewaele, 2019). More traditional independent variables are participants' language learning history and present language practice. We will also seek to determine the predictive power of these independent variables in determining the variance of FLA when they are examined together.

2. Literature review

2.1. FLA within and outside of the language classroom

Influenced by Gardner's (1985) work, Horwitz, Horwitz, and Cope (1986) adopted a 'situation-specific' approach to conceptualizing and measuring FLA. They developed a 33-item scale called the Foreign Language Classroom Anxiety Scale (FLCAS) to measure the level of FLA experienced by language learners in the specific context of the foreign language classroom. Although it was intended to measure students' FLA in FL classroom, some of the items test anxiety that usually happens outside of the classroom setting, such as "I would not be nervous speaking the foreign language with native speakers" and "I would probably feel comfortable around native speakers of the foreign language" (Shao, Pekrun, & Nicholson, 2019, p. 4) The authors points out that these items may represent anxiety arising from authentic communication with first language users in naturalistic settings outside the classroom. Subsequent research has utilized or adopted this scale to examined FLA in different cultural contexts including China (MacIntyre, 2017). Other instruments that included items on FLA both within and outside of the classroom are Gardner's (1985) French language classroom anxiety and foreign language (out-of-class) use anxiety scales—as part of the *Attitude/Motivation Test Battery* (AMTB) which was used by MacIntyre and Gardner (1989) to investigate Anglo-Canadian learners' FLA in French. Very few studies used Gardner's scales to examine FLA within or outside of the classroom. Another instrument that included items on FLA outside the classroom is Woodrow's (2006) two-dimensional scale called *Second Language Speaking Anxiety Scale* (SLSAS), reflecting communication within and outside the classroom in everyday communication situations. She examined the second language speaking anxiety of a group of international students within and outside the language classroom, with six situations for each context. Interacting with L1 users outside of the classroom were the most anxious situation. Woodrow suggested that it is important for teachers to consider communication both inside and outside the classroom, and that teachers can set up some out-of-class tasks to ensure that students have the necessary skills and practice experience in everyday communication. No further studies, however, have used her scale to examine second language speaking anxiety.

The third scale measuring FLA in situations outside the language classroom is the (foreign) language anxiety in daily communication situations developed by Dewaele and Pavlenko (2001-2003) as part of the *Bilingualism and Emotion Questionnaire* (BEQ) which was used to

collect information on multilingualism and the communication of emotions. This scale included five communicative situations: speaking a foreign language with friends, colleagues, strangers, on the phone, and in public. Dewaele et al. (2008) used this instrument to examine the communicative anxiety in the first language and FLA in the second, third, and fourth language of 464 multilingual individuals. Participants were found to suffer increasingly higher levels of FLA in languages acquired later in life. Private speech with friends, colleagues, interactions with strangers, talking on the phones, and speaking in public were experienced as being progressively more anxiety-provoking. Along the same lines, Garcia de Blakeley et al. (2017) adopted the FLA instrument of Dewaele and Pavlenko (2001-2003) to examine the L2 anxiety of 190 Latin American immigrants living in Australia. They also found that levels of L2 anxiety vary significantly across social contexts—speaking with friends in English was the least anxiety-provoking context while speaking in the public was the most anxiety-provoking. Sevinç and Dewaele (2018) also adapted this instrument to examine the heritage language anxiety and majority language anxiety among 116 Turkish immigrants in the Netherlands.

No research – to our knowledge- has investigated whether FLA outside the safe classroom environment might be stronger than within the classroom walls. There is a good reason to believe it would, as authentic interactions outside classroom are by nature more unpredictable and challenging, and crucially, they can have real-world consequences.

2.1. Sources of FLA

FLA has been found to be linked to a wide range of independent variables. Onwuegbuzie et al. (1999) identified eight variables that collectively accounted for 40 percent of FLA variance (i.e. age, academic achievement, prior history of visiting foreign countries, prior high school, experience with LXs, expected overall average for current language course, perceived scholastic competence, and perceived self-worth). In their large investigation into FL enjoyment and FL anxiety of 1746 FL learners around the world, Dewaele and MacIntyre (2014) found that participants reported lower levels of FLA when they knew more languages, had attained a high level of mastery in the FL, felt their standing in the learner group was above average, were more highly educated, were older, and belonged to Western rather than Asian cultural groups.

The effect of gender on FLA is not always clear-cut (see Dewaele, 2017). Some studies have found no gender differences; for instance, Garcia de Blakeley et al. (2017) found no gender differences in FLA in any of the five contexts in their study. Matsuda and Gobel (2004) found that gender had no effect on Japanese EFL learners' FLA in the classroom in general. Yet, other studies found that female learners experienced more FLA than their male counterparts (Arnaiz & Guillén, 2012; Dewaele & MacIntyre, 2014; Dewaele, MacIntyre, Boudreau, & Dewaele, 2016; MacIntyre, Baker, Clément, & Donovan, 2002). Surprisingly, Dewaele et al. (2019) found that male Kazakh learners of Turkish experienced higher levels of FLA in the classroom than their female peers. This might be explained by sociocultural aspects of anxiety (Park & French, 2013).

Conversely, experience abroad seems to be negatively related to FLA (Allen & Herron, 2003; Matsuda & Gobel, 2004; Thompson & Lee, 2014). Coleman (1997) claimed that students felt less guilt about making errors after spending some time abroad. Allen and Herron (2003) found that French learners not only made significant improvements in their French listening and speaking skills but also felt significantly less anxious in and out of class after their study abroad. Similarly, Matsuda and Gobel (2004) found that an extended overseas language learning experience in the

target language increased Japanese EFL learners' self-confidence in speaking English and, as a result, lowered their FLCA in the classroom. Thompson and Lee (2014) found that experience abroad helped improve language proficiency and reduced foreign language anxiety in the classroom of a group of Korean EFL learners. Experience abroad, even for a few weeks, can significantly reduce students' FLA in the classroom (Dewaele, Comanaru, & Faraco, 2015). There is no doubt that experience abroad can help reduce language learners' FLA.

FLA has also been linked to learners' language profile and language learning history (Dewaele, 2013). Research in this area can never completely pinpoint causality, as FLA can influence FL achievement and vice versa (Horwitz, 2001; Teimouri, Goetze, & Plonsky, 2019; Li, Dewaele, & Jiang, 2019). MacIntyre (1999) reviewed the literature on FLA and found that moderate negative relationships exist between FLA and various measures of language achievement across different target languages, including Japanese, French, English, German, and Spanish. Teimouri, et al. (2019) recently confirmed the negative role of FLA on language achievement in a meta-analysis of 97 research reports. The aggregate effect size of correlations reported in the primary studies yielded a mean of $r = -.36$ for the relationship between FLA and language achievement.

As an alternative measure of FL achievement, self-perceived competence has been consistently found to be negatively correlated with FLA in previous research (Donovan & MacIntyre, 2005; Dewaele et al., 2008; Teimouri et al., 2019). Donovan and MacIntyre (2005) found a moderate negative correlation between one's self-perceived competence and their FLA, while Dewaele et al. (2008) found that participants with high self-perceived speaking proficiency suffer less from FLA. In addition, many studies have demonstrated the positive correlation between self-perceived competence and their language achievement (Shao et al., 2013). MacIntyre, Noels, and Clément (1997), however, revealed that anxious learners tended to underestimate their proficiency more than less anxious learners.

There is ongoing debate on the effect of age of onset of acquisition (AOA) on FL learning outcomes (see Pfenninger & Singleton, 2017). The authors' longitudinal study showed that FL learners who started later in Swiss secondary education surpassed those who started earlier in comparable instructional settings. They thus reject the mantra that 'earlier is better' in instructed contexts. Dewaele et al. (2008) found small AOA effects on multilinguals' FLA in the L2 and L3 (with the exception of the situation 'speaking with friends') but had no effect in the L4. The effect of AOA tended to be stronger in stressful situations, especially when communicating over the phone. Dewaele et al. found that early childhood FL learning lowered FLA and argued that this was because early starters tend to feel more confident because of their early exposure to the L2. However, lower AOA may not imply a lower level of FLA in an instructed FL context.

Frequent use of a language has been shown in previous research to be linked to the development of language competence and the lowering of FLA (Dewaele, 2013). The author found that adult multilingual participants who had acquired their FL in different education contexts and who used the FL regularly with a wide network of interlocutors reported low levels of FLA (Dewaele, 2013; Dewaele et al., 2008). This finding confirmed Baker and MacIntyre's (2000) observation that immersion students demonstrated lower communication apprehension and higher self-perceived competence than non-immersion students. Practice in the authentic communication environment in the target language country helps to boost learners' self-confidence and reduce their worries (Allen & Herron, 2003; Matsuda & Gobel, 2004; Thompson & Lee, 2014).

2.2. FLA in Chinese FL classrooms

In an interview study, Yan and Horwitz's (2008) study of FLA of Chinese undergraduate students at a Shanghai university identified 12 affinities related to Chinese university students' FLA: regional differences, language aptitude, gender, interest and motivation, classroom arrangements, teacher characteristics, language learning strategies, test types, parental influence, comparison with peers, and language achievement. Geographical background emerged as a significant variable in levels of FLA in the Chinese context. Yan and Horwitz (2008) found that students from rural backgrounds worried about their fluency in Mandarin and feared that they would be at a disadvantage in becoming fluent in English. Jiang and Dewaele (2019b) similarly found that geographical background influences Chinese university students' language anxiety in their first language. Participants from Beijing, Shanghai and Guangzhou suffered less from language anxiety in Putonghua, the official language in China, compared to participants originating from county-level and rural areas where local dialects are used. Geographical background of participants can indicate the socioeconomic status of their families as well as their parents' attitudes towards their children's language education in China.

Li and Ju (2019) compared levels of FLA of 1,718 Chinese high school EFL learners to those reported for an international sample in Dewaele and MacIntyre (2014) and found them to be significantly higher in their Chinese sample. The authors attribute this to "the very strong exam orientation in FL learning in China and the high stakes it represents" (p. 8). The authors also used a 6-week long Positive Psychology intervention in an experimental group (n = 56) with the aim of boosting learners' awareness of and skills in various Trait Emotional Intelligence dimensions in order to help them cope better with classroom emotions. The results showed that learners in the experimental group score significantly higher on Trait Emotional Intelligence, on FL Enjoyment and lower on FLA than their peers in the control group (n = 52) by the end of the intervention (though the effect size was small).

Jiang and Dewaele (2019) combined quantitative and qualitative methods to focus on sources of FLE of Chinese EFL learners in the classroom context. Multiple regression analyses revealed that the strongest predictors of FLA were learners' relative standing among their peers, followed by their English proficiency level, their attitudes towards English and their attitudes towards their teacher (explaining a total of 38% of variance). No gender differences emerged. Analysis of participants' feedback on an open question about an anxiety-provoking episode in their English class showed that most comments involved the self (especially performance in exams and quizzes and making mistakes in front of others), followed by the teacher (causing FLA by organizing challenging classroom activities) and finally peer pressure. Incidentally, these patterns broadly correspond with those of FL learners outside China (Dewaele & MacIntyre, 2019).

It is obvious that many sources of classroom FLA disappear outside that classroom. A job interview, a business pitch or just a friendly chat with new friends will not be judged on the basis of linguistic accuracy –which tends to be the teacher's focus- but rather on comprehensibility and on content. This shift in focus of attention might allow FL users to focus on content, to gain confidence and to manage their FLA better. It is likely that some sources of FLA will remain while others might morph and new ones may emerge.

The present study thus aims to identify the sources of FLA outside the Chinese EFL classroom.

More specifically, the present study will answer the following four research questions:

RQ1: Do levels of Chinese university students' FLA vary when speaking English with friends,

with classmates, with strangers, on the phone, and in public?

RQ2: What are the effects of the sociobiographical variables (gender, ethnic group affiliation, geographical background, and experience abroad) on participants' FLA?

RQ3: What are the links between the language variables (age of onset of acquisition, language achievement level, self-perceived oral competence, and the frequency of language use) and participants' FLA?

RQ4: Which of the above independent variables are the strongest predictors of participants' FLA?

3. Method

3.1. Participants

A total of 1,031 first-year university students (644 females, 420 males) from a comprehensive university in Northern China participated in the study. Their average age was 18.12 years old ($SD = .73$). A vast majority of them ($n = 999$) were Han Chinese while only a small part of them were minority ethnicities ($n = 32$). They came from different provinces and municipalities of China, and were grouped by geographical origins which were based on settlement sizes: Beijing, Shanghai and Guangzhou (henceforth, BSG) ($n = 125$), provincial capital cities ($n = 179$), prefecture-level cities ($n = 325$), county-level cities ($n = 242$), villages or towns ($n = 127$), and unknown ($n = 41$). A small number of the participants ($n = 147$) had experience abroad, ranging from two weeks to half a year, in international high school exchange programmes or just travelling, while a great majority ($n = 917$) had never been abroad. All of these participants were not-English-major learning different subjects at university: liberal arts and humanity ($n = 168$), social sciences ($n = 238$), economics and business related ($n = 333$), law and politics ($n = 86$), math and science ($n = 154$), and others ($n = 53$). They were of four distinctive language achievement levels based on their English placement test results upon arriving at the university: advanced level, high intermediate level, intermediate level, and lower intermediate level. They spent hours per week doing a General English course, two hours for English Listening and Speaking skills and two hours for English Reading and Writing skills. The above demographic information is summarized in Table 1.

Table 1

Participants' demographic information.

Variable	Category	Frequency	Percentage
Gender	Female	623	60.4%
	Male	408	39.6%
Ethnic group affiliation	Han	999	96.9%
	Ethnic minorities	32	3.1%
Geographical background	BSG	125	12.1%
	Provincial capital city	171	16.6%
	Prefecture-level city	325	31.5%
	County-level city	242	23.5%
	Village or town	127	12.3%
	Unknown	41	4%
	Experience abroad	Yes	141
No		890	86.3%
English language achievement level	Advanced	83	8.1%
	High intermediate	205	19.9%
	Intermediate	419	40.6%
	Low intermediate	324	31.4%

Note: BSG=Beijing, Shanghai, and Guangzhou

3.2. Research instruments

Dewaele and Pavlenko's (2001-2003) BEQ was adapted as the research instrument in this study. BEQ originally contains 35 questions which examine multilinguals' emotional language use in up to four languages. This study is part of a research project which aims to examine the language use of multilingual Chinese youngsters' emotions. For the purpose of the research project, BEQ was adapted and the number of questions was reduced to 25. The questionnaire started with a demographics section from which the information about participants' age, gender, geographical background, and subject background was retrieved; following this, participants were asked to report on the languages known, age of onset of acquisition, context of acquisition, frequency of use of the language, and self-perceived competence in the language. Other than Putonghua/Mandarin Chinese, the official language of China, a large majority of the participants ($n = 853$) could speak one or two types of Chinese dialects or one ethnic minority language. Some of the participants ($n = 126$) had also learned a second foreign language besides English: such as Japanese ($n = 55$), French ($n = 26$), German ($n = 13$), Korean ($n = 12$), Spanish ($n = 12$), Russian ($n = 6$), Italian ($n = 1$), and Kazakh ($n = 1$).

The participants' age of onset of acquisition (AOA) of English ranged from 3 to 13 (Mean = 7.35, $SD = 2.47$). In order to examine the impact of different AOAs, the AOA information was further grouped into three groups as a second-order variable: participants who started to learn English before primary education (3-5 years old) ($n = 226$, 21.9%), in primary school (6-11 years

old) ($n = 732$, 71%), and in the first year of middle school or later (12 years old +) ($n = 73$, 7.1%).

Self-perceived competence in English was measured through 5-point Likert-type scales from the BEQ, ranging from 1 (minimal) to 5 (maximal). The questions read “How do you rate yourself in using English on the scale from 1 (least proficient) to 5 (fully proficient)?” for the following areas: (a) comprehending English, (b) speaking English, (c) reading English, and (d) writing English. As the focus of this study was on skills related to oral communication, participants’ self-perceived competence in English speaking was used as an independent variable. Mean score on the Likert scale was 2.71 ($SD = .84$).

The next question inquired about participants’ frequency of use of English; answers included ‘hardly ever’ ($n = 35$), ‘not very often’ ($n = 338$), ‘sometimes’ ($n = 508$), ‘usually’ ($n = 138$), and “all the time” ($n = 12$). Mean score on the Likert-type scale was 2.76 ($SD = .77$).

FLA data were obtained through a five-item scale with a closed question: ‘How anxious were you when speaking English in different situations: (a) speaking with friends, (b) with classmates, (c) with strangers, (d) on the phone, and (e) in public (e.g. speaking English in a speech contest)?’ rated on a 5-point Likert-type scale (1 = not at all, 2 = a little, 3 = quite anxious, 4 = very anxious, and 5 = extremely anxious). Besides the five choices on the 5-point Likert-type scale, ‘not applicable (N/A)’ is also given for participants to choose if a situation is not applicable to them. The N/A data was listwise-deleted in the data analysis. Cronbach’s alpha analysis revealed that the internal consistency reliability of this scale was very high in this study ($\alpha = .886$, $n = 5$). This measure was calculated at two levels: individual FLA for each context (lowest possible score 1; highest possible score 5) and total FLA by adding the participants’ scores in each context (lowest possible score 5; highest possible score 25). Several studies have adopted (or adapted) this instrument and reported high reliability (Garcia de Blakeley et al., 2017; Sevinç & Dewaele, 2018).

To help the participants better understand and answer the questionnaire, all the questions were in Chinese. The questionnaire was translated into Chinese and back-translated to English by two experienced Chinese-English teachers. The first version of the questionnaire was pilot tested with 135 students. This led to the deletion of some items and the reformulation of others before data collection.

3.3. Data collection

The questionnaires were completed in the traditional paper-and-pencil way, with stratified random sampling in terms of participants’ English language achievement level. Questionnaires were distributed among the participants and collected by their English teachers in the classroom. The participants spent 20-25 minutes to complete and took part in this study anonymously. Of the 1,400 copies of questionnaires distributed to participants, 1,147 copies were returned, for a return rate of 82%; among these, 116 copies were listwise-deleted. The data of 1,031 participants were thus analyzed in this study. This study obtained research ethical approval from the first author’s institution. Each individual respondent’s consent was obtained at the start of the demographic survey provided with the questionnaire.

3.4. Data analysis

One-sample Kolmogorov-Smirnov tests revealed that the distribution of FLA in the situations and the total score was not normal (KS values ranging from 5.8 to 8.4 for FLA across the

situations, and $KS = 2.4$ for the FLA total score, all $ps < .001$). However, a close look at the distribution of FLA in individual situations and in the total score and the calculation of Q-Q plots for FLA in the total score (Figure 1) suggests that they follow a normal distribution reasonably well except for the region above 22. The authors thus opted for the more powerful parametric statistics— t -tests and ANOVAs to examine the effects of categorical variables on FLA, and Pearson correlations to examine the links between the numerical variables and FLA. A multiple regression analysis was run to examine the predictive power of the independent variables for variance of FLA (Plonsky & Oswald, 2017).

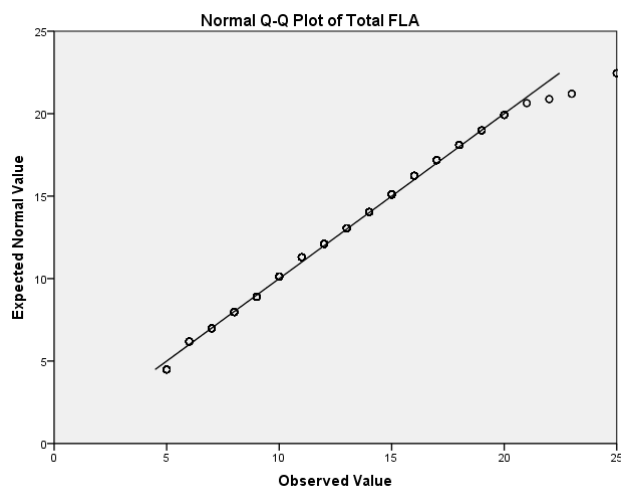


Fig. 1. Normal Q-Q plot of foreign language anxiety total score.

4. Results

4.1. The levels of FLA across a variety of situations

From the descriptive data summarized in Table 2, we can see that the level of FLA is the highest in public ($M = 3.15$) and the lowest with friends ($M = 1.87$). In order to investigate variation in levels of FLA across situations, one-way repeated-measures ANOVA was conducted. The results showed a significant effect of the situation on FLA: $F(4, 1031) = 391.9, p = .0001$. The effect size of the difference, expressed as partial-eta squared, was $.604$. According to Cohen (1988), a value of partial eta squared above $.138$ can be regarded as large, this effect size is thus very large.

Table 2

Foreign language anxiety across situations.

FLA	With friends		With classmates		With strangers		On the phone		In public		Total score	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	1.87	.86	2.10	.88	2.85	.98	2.75	1.04	3.15	1.12	12.72	4.07

4.2. The links between sociobiographical variables and FLA

4.2.1. Gender

Independent samples t -tests were conducted to determine whether there were differences in FLA levels in terms of gender. Results revealed no significant differences between females and

males in FLA level across all situations and in the total score (all $ps = ns$) (see Table 3).

4.2.2. Ethnic group affiliation

Results of independent-samples t -tests showed no significant differences in FLA between Han students and ethnic minority students across all situations or in total score (all $ps = ns$) (see Table 3).

4.2.3. Geographical background

One-way ANOVA showed that geographical background had significant effects on levels of FLA in three situations — when speaking English with friends ($F(4) = 5.25, p = .0001$), with classmates ($F(4) = 4.01, p = .003$), with strangers ($F(4) = 2.65, p = .032$) — and in total score ($F(4) = 3.70, p = .005$) (see Figure 2). However, there were no significant differences among participants' levels of FLA in the other two situations: on the phone ($F(4) = 1.44, p = .218$) and in public ($F(4) = 1.55, p = .185$).

Post hoc pairwise comparisons with Bonferroni corrections indicated that participants from village or towns scored significantly higher than participants from other settlement sizes when speaking English with friends (all $ps < .05$); scored significantly higher than participants from BSG, provincial capital city, prefecture-level cities when speaking English with classmates (all $ps < .05$); scored significantly higher than participants from BSG when speaking with strangers ($p < .05$); and scored significantly higher than participants from BSG ($p < .01$) and provincial capital city ($p < .05$) in total score. There were no significant differences between any other groups.

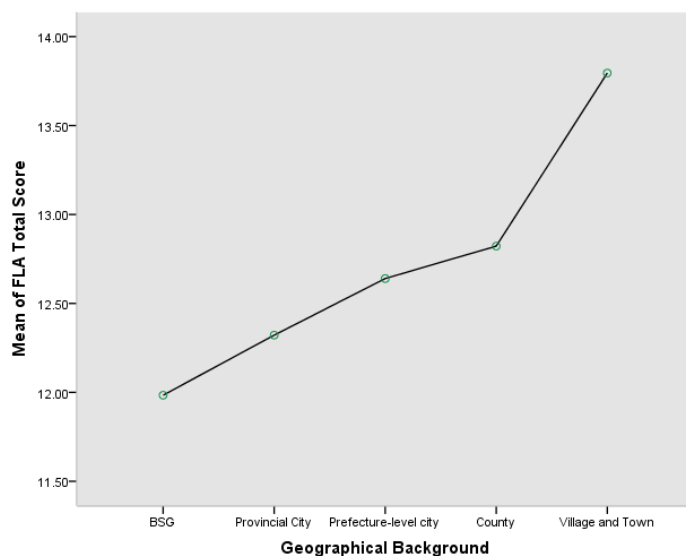


Fig. 2. Foreign language anxiety among different geographical background groups.

4.2.4. Experience abroad

Independent-samples t -tests showed that experience abroad had a significant effect on participants' FLA across five situations — when speaking English with friends ($t(1029) = -3.52, p = .001$), with classmates ($t(1029) = -3.63, p = .0001$), with strangers ($t(1029) = -3.81, p = .0001$), on the phone ($t(1029) = -3.42, p = .001$), and in public ($t(1029) = -2.97, p = .003$) — and in total score ($t(1029) = -4.24, p = .0001$) (Table 3). In other words, the FLA levels of participants who had experience abroad were significantly lower than the participants who did not.

Table 3

Overview of the effects of gender, ethnic group affiliation, geographical background, experience abroad, age of onset of acquisition, and language achievement level on levels of foreign language anxiety.

Situation		Gender	Ethnic group affiliation	Geographical background	Experience abroad	AOA	Language achievement level
		Independent <i>t</i> -test <i>t</i> (<i>df</i> = 1029)	Independent <i>t</i> -test <i>t</i> (<i>df</i> = 1029)	One-way ANOVA <i>F</i> (<i>df</i> = 4)	Independent <i>t</i> -test <i>t</i> (<i>df</i> = 1029)	One-way ANOVA <i>F</i> (<i>df</i> = 2)	One-way ANOVA <i>F</i> (<i>df</i> = 3)
FLA	With friends	.95	-.06	5.25***	-3.52**	7.06**	5.88**
	With classmates	-.44	-.99	4.01**	-3.63***	6.61**	8.58***
	With strangers	1.83	1.15	2.65*	-3.81***	4.63*	8.50***
	On the phone	1.24	1.19	1.44	-3.42**	3.73*	7.78***
	In public	.28	.54	1.55	-2.97**	3.72*	5.15**
	Total score	.97	.45	3.70**	-4.24***	6.99**	9.90***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

4.3. The links between language variables and FLA

4.3.1. Age of onset of acquisition

One-way ANOVA tests showed a highly significant effect of AOA on participants' FLA across five situations — when speaking English with friends ($F(2) = 7.06, p = .001$), with classmates ($F(2) = 6.61, p = .001$), with strangers ($F(2) = 4.63, p = .010$), on the phone ($F(2) = 3.73, p = .024$), in public ($F(2) = 3.73, p = .024$) — and in the total score ($F(2) = 6.99, p = .001$) (Table 3).

Post hoc pairwise comparisons with Bonferroni corrections were conducted to investigate the between-group differences among three AOA groups. The results for total FLA score showed that participants who had started to learn English before five years old (Group 1) ($M = 11.86, SD = 4.06$) scored significantly lower than those who learned English in primary school (Group 2) ($M = 12.93, SD = 4.05$) ($p < .01$) and those who had learned English in the first year of middle school or later (Group 3) ($M = 13.36, SD = 3.96$) ($p < .05$). Group 1 also scored significantly lower than Group 2 and Group 3 on FLA when speaking with friends, with classmates, with strangers (all $ps < .05$) and scored significantly lower than Group 2 when speaking English on the phone and in public (both $ps < .05$). However, there was no significant difference between Groups 2 and Group 3 in any situation or in total score (all $ps = ns$).

4.3.2. Language achievement level

One-way ANOVA showed that language achievement level had significant effects on participants' FLA across five situations — when speaking English with friends ($F(3) = 5.88, p = .001$), with classmates ($F(3) = 8.58, p = .0001$), with strangers ($F(3) = 8.50, p = .0001$), on the phone ($F(3) = 7.78, p = .0001$), in public ($F(3) = 5.15, p = .002$) and in total score ($F(3) = 9.90, p = .0001$).

= .0001) (see Table 3).

4.3.3. *Self-perceived oral competence and frequency of language use*

Pearson correlation analyses showed that both self-perceived oral competence in English ($r = -.420, p < .01, R^2 = .17$) and frequency of language use ($r = -.235, p < .01, R^2 = .06$) were significantly negatively related to FLA. The effect size is small (Plonsky & Oswald, 2014).

4.4. *The strongest predictors of FLA*

All independent variables that were significantly related to FLA were included in a linear regression analysis to identify the strongest predictors of FLA. The regression analysis can remove redundancy from predictor variables to see which are retained compared to the zero-order correlation. To verify the degree of inter-correlations between independent variables, we ran Pearson correlation analyses (see Table 4). The results show that none of the variables share more than 10.6% of variance; this means there is no danger of multicollinearity in the regression analysis. Meanwhile, our sample size of 1,031 is well beyond the minimum sample size for six independent variables in a multiple regression analysis (Tabachnick & Fidell, 2001).

Not surprisingly, participants from BSG (metropolitan cities) were more likely to have experience abroad and start to learn English earlier than those from village or town (rural areas). AOA was negatively related to language achievement level. Language achievement level was positively related to self-perceived oral competence. A higher self-perceived oral competence was related to more frequent English use in daily communication.

Table 4

Inter-correlations between the independent variables.

	Experience abroad	AOA	Language achievement level	Self-perceived oral competence	Frequency of language use
Geographical background	.326***	.313***	-.230***	-.221***	-.147***
Experience abroad		.185***	-.205***	-.155***	-.044***
AOA			-.167***	-.152***	-.127***
Language achievement level				.235***	.156***
Self-perceived oral competence					.310***

Note: *** $p < .0001$

Multiple regression analysis (stepwise method) was used. Values for the variance inflation factor (VIF), which quantifies the severity of multicollinearity, hover around 1, suggesting that the model is not problematic (Tabachnick & Fidell, 2001). A significant regression equation model was found for FLA, indicating that three variables predicted 20.2% of the variance. The strongest predictor was self-perceived oral competence, which accounted for 18.9% of variance, followed by frequency of language use and then language achievement level (see Table 5). In other words, participants with higher self-perceived oral competence and higher language achievement level

who used English more frequently reported less FLA. According to Plonsky and Ghanbar (2018), however, this effect size can be described as small.

Table 5

Significant results of multiple regression analysis using six variables as predictors of FLA.

Predicted variable	Predictor variables	Adjusted R^2	R^2 change	F	p
FLA	Self-perceived oral competence	.189	.189	230.94	< .0001
	Frequency of language use	.199	.012	124.12	< .0001
	Language achievement level	.202	.003	84.29	< .0001

5. Discussion

The first research question addressed differences in the levels of FLA in English among Chinese university students in different situations. Participants reported a moderate level of FLA ($M = 2.54$) across situations, which is higher than the mean level of FLA (1.85) in the L2 among the participants in Dewaele et al. (2008) (p. 933). This suggests that FLA in English in daily communication is prevalent among Chinese university students. Consistent with previous research (Dewaele et al., 2008; Garcia de Blakeley et al., 2017), situation had a significant effect on participants' FLA in this study. In particular, participants reported that speaking English with friends was the least anxiety-provoking situation, while speaking English in public was the most anxiety-provoking one. Similar patterns have been found in studies on FLA in the classroom, where Chinese students felt the least anxious in pair work and the most anxious when they had to speak in front of the class (Liu, 2006). This finding is common sense and fundamental: FL users' FLA increased in situations perceived to be progressively more threatening (Pappamihel, 2001).

The second research question focused on the effects of sociobiographical variables on FLA. First, no gender differences were found in participants' FLA, which confirms earlier findings (Dewaele et al., 2008; Garcia de Blakeley et al., 2017), including with Chinese university students' FLA in the classroom (Jiang & Dewaele, 2019a; Liu, 2006). There were also no significant differences between Han and ethnic minority students' FLA. Although ethnic minority students in China generally learned English as their third language (Yang, 2008; Han et al., 2016), it seems not to make them more anxious. One possible explanation is that the ethnic minority students had in fact two L1s (acquired before the age of 3) and hence that even for them English was the first FL.

Geographical background had a significant effect on participants' FLA in two situations (when speaking English with friends and classmates), as also reflected in total score. Nevertheless, the effect of geographical background tends to be weaker in more stressful situations, such as speaking over the phone, with strangers, or in public. Undoubtedly, participants from BSG had the least FLA while those from villages or towns had the highest. This is consistent with Yan and Horwitz (2008), who found that Chinese students from rural areas suffered more FLA than their counterparts from economically developed regions, especially in listening and speaking. However,

Yan and Horwitz's results were based on qualitative analysis and hence not generalizable. This finding again confirms that geographical background, a variable which can indicate participants' social economic status to some extent, and which might be linked to the likelihood of encountering English outside the classroom, is a significant variable explaining differences in FLA and (thereby) language learning situations and outcomes in China (Jiang & Dewaele, 2019b).

Experience abroad was also significantly linked with participants' FLA: participants who had short-term experience abroad had lower levels of FLA than those who had never been abroad. This is consistent with the findings of Matsuda and Gobel (2004) and Thompson and Lee (2014). Although the participants in the present study did not have such extended experience abroad as the participants in those two studies, their authentic experience in a foreign country might nevertheless have helped reduce their FLA. This might be also have been because students who had a chance to go on exchange or travel abroad were generally from families with higher socioeconomic status who could afford the expense of experience abroad and families who may have paid in the past for extra English tuition, which all combined, led to a better English proficiency.

The third research question examined the links between language variables and participants' FLA. AOA had a significant effect on participants' FLA across situations and in total score. One intriguing finding emerged from the comparison of different AOA group averages, namely, that participants who started to learn English before the age of five scored significantly lower in FLA than those who started to learn English in primary school and in middle school; there was no significant difference between the latter two groups. This could partially confirm that Dewaele (2013) who found that early starters suffered less from FLA in their L2 and L3 compared to older starters. Dewaele (2013) also found that FLA levels stabilized at different points across the situations; and the relationship between FLA and AOA in the present study is similarly non-linear. One possible explanation is that Chinese students learn English in an instructed context. Most of them start to learn English in Year 1 or Year 3 of primary school while those in economically underdeveloped areas start to learn English in middle school due to the disparity of English education recourses in different regions (Hu, 2005). It seems that the participants who started to learn English in primary school do not suffer less from FLA than those who started to English in middle school even though they had learned English for 3-6 years more. We cannot explain the reason behind this from this study. Another possible explanation is that those who started to learn English before primary school experienced the least FLA might be because their parents attach great importance to English and make efforts to help their children learn English and may have paid for cram schools. This earlier exposure to English and continuous efforts in English learning might increase these students' interest and confidence and thus reduce their FLA.

Both language achievement level and self-perceived oral competence were negatively linked with participants' FLA. In addition, self-perceived oral competence was positively correlated with their language achievement level, which confirms previous findings (MacIntyre et al., 1997; Shao et al., 2013). The correlation between self-perceived oral competence and FLA is larger than that between language achievement level and FLA because language achievement level is a categorical variable based on the grouping of their achievement results in listening comprehension, vocabulary, grammar and reading comprehension (we did not test their oral competence). Thus, a combination of different language achievement measures including both subjective (self-perceived) and objective measures of language achievement could be applied to help provide more

comprehensive information for FLA research (Teimouri et al., 2019).

The negative correlation between the frequency of language use and FLA was expected as it is also found in many previous studies (Baker & MacIntyre, 2000; Dewaele et al., 2008; Dewaele, 2013). Participants who reported using English more frequently might have more confidence and be more willing to use the language in daily situations, making their FLA levels lower.

The fourth research question dealt with the predictive power of all the significant independent variables on participants' FLA. Multiple regression analyses revealed that self-perceived oral competence, language achievement level, and frequency of language use predicted 20.2% of variance in FLA. Thus, participants with a higher self-perceived oral competence and language achievement level who use English more frequently tend to experience lower FLA outside the classroom in an FL environment. This echoes the finding of Garcia de Blakeley et al. (2017) that self-perceived L2 competence was the strongest predictor of second language anxiety, as well as the most consistent negative correlation between FLA and self-perceived communication competence claimed by MacIntyre (2017). The two significant sociobiographical variables, geographical background and experience abroad affected Chinese students' FLA indirectly (Yan & Horwitz, 2008). It thus seems that FLA in a FL environment are mainly affected by participants' self-perceived linguistic competence and practice. Another explanation might be that the impact of socioeconomic background is reduced because of the limited divergence in participants' FL achievement considering they were top students academically in China.

It is time to come back to the fundamental question whether FLA outside the classroom differs from that within the classroom. We would argue that the FLA experienced within the classroom morphs into something slightly different outside the classroom (cf. Dewaele & Pavelescu, 2019). It seems that outside the classroom FLA originates even more from the self. In the absence of exams and teachers, FL users can only rely on their own judgment and skills to judge their FL skills. They may realize that their ability to communicate in the FL matters more than being 100% accurate. This increased confidence of being able to deal effectively in the FL with new interlocutors in new situations, might help them manage their FLA better, and might reduce the FLA over time, a phenomenon not unlike that described by Coleman (1997) about students feeling less guilty about making errors after their study abroad. It could also be linked to an increased sense of agency, namely a belief that individuals are capable of independently producing desirable outcomes while avoiding undesirable ones (Bandura, 1977).

The present study has some limitations. First, FLA was self-reported and probably did not perfectly reflect actual anxiety levels in these communication situations. This is countered by the fact that self-reports on FLA are unlikely to be (strongly) influenced by social bias in an anonymous questionnaire. Moreover, it is close to impossible to measure anxiety directly. Gregersen, MacIntyre, and Meza (2014) linked self-reported idiodynamic FLA ratings of six learners with their heart rates and found some strong correlations over a period of 45 seconds. However, they pointed out that the relationship between physiological and idiodynamic ratings are complex as they can be influenced by different factors. The heart rate can go up as a consequence of affective arousal but also by body movement; moreover, FLA can increase by cognitive appraisal of the situation. The advantage of self-report is that it allows the gathering of a very large sample and the findings have some degree of generalizability (cf. Dewaele, 2018). Second, the communication situations in the FLA instrument used in this study could be more detailed. We could distinguish “with strangers in the classroom” and “with strangers on a street corner”. The

features of speaking English in class and on a street corner seem different. Third, the participants were from a prestigious university, so the findings of this study cannot be generalized to all the Chinese university students. Future research could try to involve participants from different levels of Chinese universities.

6. Conclusion

The present study has investigated the FLA of Chinese university students in communication situations beyond the confines of the classroom and explored the links between several sociobiographical and language variables and their FLA. In general, moderate FLA exists among the participants when using English in different situations. Geographical background and experience abroad had a weak effect on FLA overall while gender and ethnic group affiliation had no effect on FLA. Participants who had started learning English very early reported lower levels of FLA. Multiple regression analysis showed that three language variables (self-perceived oral competence, the frequency of language use, and language achievement level) explained 20% of variance of FLA. This confirms and expands previous findings that Chinese university students' FLA is mainly influenced by their language competence and indirectly affected by their socioeconomic status (Yan & Horwitz, 2008). This study thus reaffirms that FLA is a complex socio-psychological emotion influenced by both learner-internal and learner-external variables.

Finally, we argued that FLA experienced within the Chinese EFL classroom is very much linked to linguistic accuracy measured through tests and exams. FLA outside the classroom does not necessarily evaporate but the absence of teachers frees FL users from certain constraints and allows them to develop their agentic perspective and to construct a more realistic judgement of their FL skills. Growing confidence in their ability to communicate in the FL with various interlocutors in various situations, might allow them to deal more efficiently with their FLA, and help them reduce it over time.

Despite of the limitations of this study, the findings have some pedagogical implications for Chinese EFL teachers. First, teachers could try to create more opportunities to enable Chinese students practice their FL autonomously in situations outside of the classroom in order to gain some degree of confidence in their communication skills. Second, following Horwitz' (2017) advice: "we must change the nature of language classrooms to make the learning context as supportive as possible" (p. 44).

Acknowledgement

We would like to express our thanks to the anonymous reviewers for their excellent comments on the earlier version of this manuscript. We also like to thank our participants for their participation in this study.

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