Significant Predictors of Second Language Anxiety Among Chinese University Students

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Abstract

Second language anxiety is an emotional reaction that diminishes second language learners' academic performance. Researchers have identified cognitive and affective factors as contributors to students' classroom anxiety reactions, yet few studies have examined the concurrent effect of those factors. This study employed survey questionnaires to investigate the effects of native language learning history, second language learning attitude, intrinsic/extrinsic motivation, and self-efficacy on students' second language classroom anxiety. Multiple regression results indicated that the affective factors, self-efficacy and attitudes about learning the target language, were significant predictors of students' English communication apprehension in the classroom.

Introduction

Issues related to Second Language Learners (SLL), particularly university students of Chinese backgrounds, is of importance in the field of higher education. A specific dimension of this issue is SLL anxiety. Tanir & Ozmaden (2018) indicated that anxiety is one of the most common psychological symptoms that affect mental health negatively among college students. Anxiety is defined as: a worrisome feeling that appears when it feels like a strong desire or impulse will not reach its goal (Alver, Dilekmen, & Ada, 2016). The work of MacIntyre and Gardner (1991) indicate that situation-specific anxiety could be referred to as anxiety triggered when specific factors are present. Horowitz (2001) identified such contexts as taking exams, performing on stage, giving a speech, and/or communicating in a second or foreign language.

Liu (2006) investigated levels of English language learners' second language anxiety among Chinese college students via multiple measures (i.e., surveys, observations, journals, and interviews), and reported that two-thirds of these students experienced foreign language anxiety in the classroom at a variety of levels. Similarly Liu (2012) concluded that this type of anxiety had a debilitating and long-lasting detrimental effect on the second language use, motivation toward learning the target language, and overall second language attainment.

The issue of second language anxiety is of particular concern when one considers that Chinese students are the largest sector of international student enrollments in American schools. The number of Chinese students in the United States from academic years 2008/09 to 2018/19 showed a consistent increase from 98,235 to 369,548 (Statista, 2010). In addition, attracting and retaining Chinese students is critically important to the U.S. economy. The Association of International Educators (NAFSA, 2019) latest analysis reported that the 1,075,496 international students studying at U.S. colleges and universities contributed $38.7 billion and supported more than 415,995 jobs to the U.S. economy during the 2019-2020 academic year.

The purpose of this study is to continue to unravel the predictors that may contribute to second language anxiety, and use the findings as a framework to develop ways by which to mitigate stress. Data was collected prior to the Covid-19 pandemic. The anxiety created by this event had no impact on the findings of this study.

Literature Review

The triggers of language anxiety in classrooms were explored in particular learning contexts. Horwitz, Horwitz, & Cope (1986) first introduced the three componential sources of language anxiety in the classroom: 1) communicative apprehension; 2) fear of negative evaluation; and 3) test anxiety. This model came to be regarded as one of the most influential frameworks in the construct of language anxiety. In the research literature, factors contributing to language anxiety have two classifications, cognitive factors and affective factors. The cognitive factors of language aptitude, native language problems and learning styles are identified as primary. Wong (2004) conducted a study that investigated international students' preferred learning styles while studying in Australian colleges.

The anxiety levels of students in the affective category are explained by factors of motivation and attitudes, culture and learner beliefs, and self-efficacy, self-esteem and self-confidence. In an interview with several Asian English as a Second Language students, Ohata (2005) found that Asian culture characteristics might contribute to student apprehensive reactions in the classroom.

Pappamihiel (2002) explored the affective factors of self-efficacy, self-esteem and self-confidence as related to Asian students. In this study, he found that English language learners' self-perceived skills in reading and writing in English contributed to students' anxiety. Similarly, Mills, Pajares, and Herron (2006) reported that students who perceived themselves as good readers were proficient in reading, whereas for students who expressed high reading anxiety, their reading self-efficacy levels were low. Clement, Dörnyei, and Noels (1994) added that an individual's self-perceived efficacy and self-esteem may have a direct impact on his/her self-confidence, and his/her level of self-confidence is likely to be a strong predictor of his/her academic achievement.

In summary, a substantial body of social psychology research focused on Chinese students revealed a strong connection between second language learners' anxiety, first language acquisition, motivation and self-efficacy in the second language learning process. However, little research was conducted that took all of these factors into account and compared them explicitly.

Research Question

To what extent is English language anxiety predicted by cognitive variables (native language learning history, academic learning history, test taking characteristics, and classroom learning characteristics) and affective variables (attitudes towards English language learning, intrinsic motivation, extrinsic motivation, and self-efficacy), when controlling for gender, English language ability, accumulated grade point average, length of time studying English, and time spent living in the U.S.?

Methodology

The study was conducted in a mid-sized private university located in the suburban region of New York State with a substantial Chinese student population. As of 2017, the students from China represented the largest majority (N = 614), followed by students from India (n = 62), South Korea (n = 27) and Taiwan (n = 24). A total of 145 Chinese international students enrolled in undergraduate and graduate studies comprised the final sample size. However, due to missing information on some questionnaires 128 respondents comprised the final sample size. All of the participating subjects were directed to sign off on the study informed consent at the onset of the study.

This study employed a cross-sectional, single-subject quantitative design that examined the effect of four cognitive predictor variables (native language learning history, academic learning history, test-taking characteristics, and classroom learning characteristics) and four affective predictor variables (attitude toward learning the target language, intrinsic motivation, extrinsic motivation, and self-efficacy) on Chinese English language learners' language anxiety in American college classrooms. The demographic information (gender, length of time studying English, years living in the U.S., English language ability, and academic achievement) served as controlling variables in order to gauge any influence that these variables might have on student' anxiety levels.

Data were collected by means of survey questionnaires containing a total of 77 items. Seventy-two items were constructed using five-point Likert scales, with responses ranging from extremely agree to extremely disagree. Five items were asked in regards to personal information: student identification number, program of study, gender, length of time learning the English language, and time spent living in the U.S.

Factor analyses were run to test the reliability and validity of the adapted measures. The coefficient alpha and probability values were examined to determine the statistical power of each measure, as well as whether statistical significance was reached. Multiple regression, specifically hierarchical regression models, were employed to investigate the relationships between the controlling, predicting and the outcome variables. The effect size generated by the models indicated the strengths and relationships among variables, as well as the interactions between variables.

The outcome variable, second language class anxiety, was measured using the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz, Horwitz and Cope, 1986.

The cognitive predictor variables related to language learners' naïve language learning problems included the four following components: 1) native language (Chinese) learning history; 2) overall academic learning history; 3) test characteristics; and 4) classroom learning characteristics. They were measured by using a modified version of the Foreign Language Screening Instrument for Colleges (FLSI-C), developed by Ganschow and Sparks (1991).

The affective predictor variable of attitude/motivation was measured by Gardner's (1985b) "Attitude/ Motivation Test Battery" (AMTB). To identify the effect of self-efficacy on students' language anxiety, this study adapted The New General Self-Efficacy (NGSE) an eight-item psychometric instrument, developed by Chen, Gully, and Eden (2001).

The demographic covariables included student's identification number, gender, program of study, length of time studying the English language, length of time living in the U.S., English language proficiency, and academic achievement. Levels of the participants' English language proficiency were assessed using the scores of Test of English as Foreign Language (TOEFL) submitted to the institution as part of the admission requirement. Participants' academic performance were assessed based on accumulated grade point averages (GPA) during their studies at the institution.

Results

A hierarchical multiple regression analysis was conducted to examine the degree of contribution of the cognitive variables (Chinese learning background, classroom learning characteristics, academic learning background, and test-taking characteristics) and the affective variables (extrinsic motivation, intrinsic motivation, and attitude about learning English) imposed on the outcome variable (English communication apprehension). A significant model emerged, $F (8, 120) = 3.24$, $p < .05$, with an adjusted R-square value of .12, indicating that when all variables were held constant, these variables accounted for 12% of the total variance in predicting Chinese international students' English communication apprehension in the classroom (see **Table 1**).

To examine any potential influences that gender, English language proficiency, academic achievement, and the length of exposure to the English language and culture might exert in predicting students' English communication apprehension levels, these variables were entered in the second block as control variables. Another significant model emerged, $F (13, 115) = 3.52$, $p = .00$, producing an adjusted R-square of .20 (see **Table 2**).

It suggested that 20% of the variance could be explained when taking all predictor and control variables into account. The predictor variables that had coefficients below the cutoff point of .05 in the models were self-efficacy and attitude about learning English. Furthermore, gender and length of time students have been learning the English language were also found to be significant contributors of students' English communication apprehension in the classroom.

As suggested by the hierarchical regression models, students' perceived efficacy level was the strongest predictor of levels of English communicating apprehension experienced in the classroom. This finding showed that on average, every unit increase in student's level of self-efficacy would result in a 2.67 decrease in students' levels of English communication apprehension when holding all variables constant, $p < .001$. The regression model also suggested that in addition to students' perceived self-efficacy, students' attitude about learning the English language was also a significant predictor of students' English communication apprehension in the classroom. The level of English communication apprehension was found to be 1.78 points higher in male's averages than in female's, $p < .01$, and with every one

Table 1. Regression Analysis Model 1 Predicting English Communication Apprehension

Variables	Unstandardized Coefficient Beta	Std. Error	Standardized Coefficient Beta	t	95% CI
Model 1	**24.47**	**3.58**		**6.83**	**[17.38, 31.56]**
Self-Efficacy	-3.01	.71	-.40	-4.27***	[-4.41, -1.62]
Extrinsic Motivation	1.05	.80	.15	1.31	[-.54, 2.64]
Intrinsic Motivation	.56	.56	.10	.99	[-.55, 1.68]
Attitude about Learning English	-1.40	.66	-.23	-2.25**	[-2.63, -.17]
Chinese Learning Background	-.01	.54	-.00	.88	[1.08, 1.07]
Classroom Learning Characteristics	.20	.39	.05	.50	[-.58, .98]
Academic Learning Background	.74	.60	.14	1.25	[-.44, 1.93]
Test Taking Characteristics	-.67	.59	-.12	-1.14	[-1.84, .49]

Adjusted R Square = .12, $F (8, 120) = 3.24$, $p = .00$
Note. N = 128. CI = Confidence Interval. *p < .05;
**p < .01; ***p < .001

Table 2. *Regression Analysis Model 2 Predicting English Communication Apprehension*

Variables	Unstandardized Coefficient Beta	Std. Error	Standardized Coefficient Beta	t	95% CI
Model 2	**31.66**	**6.24**		**5.07**	**[19.29, 44.03]**
Self-Efficacy	-2.67	.68	-.36	-3.90***	[-4.02, -1.31]
Attitude about Learning English	-1.49	.59	-.24	-2.52**	[2.67, -32]
Gender	1.78	.69	.21	2.57**	[.405, 3.15]

Adjusted R Square = .20, *F* (13, 115) = 3.52, *p* = .00
*Note. N = 128. CI = Confidence Interval. *p < .05;*
***p < .01; ***p < .001

unit increase in the time the student has spent learning the English language, it resulted in a reduction in .23 points in students' English communication apprehension in the classroom, p < .05.

Contrary to findings in the literature, none of the cognitive variables (Chinese learning background, classroom learning characteristics, academic learning background, and test-taking characteristics) were found to significantly predict students' levels of classroom English communication apprehension. Factors associated with motivation, such as extrinsic motivation and intrinsic motivation, did not contribute significantly to students' English communication apprehension levels. Students' English language proficiency (as measured by TOEFL), academic performance (as measured by GPA), as well as the length of time living in an English-speaking environment did not contribute significantly to the variance in students' levels of English communication apprehension.

Conclusions

The overarching findings of this study suggested that Chinese international students experienced a high level of English communication apprehension in the classroom. Among the variables examined in the regression models, the strongest predictors of Chinese students' English communication apprehension were students' perceived self-efficacy and attitudes about learning the English language.

The strongest contributors to students' English communication apprehension, perceived self-efficacy and attitude about learning the target language (English) in this study, provided further evidence to support

Schunk's (2007) and Zhong's (2010) claims. Both Schunk (2007) and Zhong (2010) proposed a direct interrelationship between past experiences, praise, self-efficacy, and anxiety. Furthermore, students' perceived self-efficacy can be reinforced if they receive consistent praise for their performance by the instructors, which builds a foundation of confidence and capacity (Schunk, 2007). In short, positive past learning experiences and consistent praise serve as a catalyst for promoting an individual's self-worth and perceived self-efficacy. The evidence provided by this study indicated that regardless of students' levels of English language proficiency, English communication apprehension was prevalent among Chinese English language learners. Findings as such support McCroskey, Richmond, and McCroskey's (2005) claim, proposing that individuals' second language competence may not alleviate their levels of anxiety if they are affected by challenges of public speaking.

In summary, it is not completely surprising that students' native language learning history was not found to play a significant role in students' second language (English) communication apprehension. This finding warrants further investigation in regard to first and second language acquisition (Cook, 2010; MacIntyre, 1995). Children acquire their first language intuitively and are exposed to a plethora of language stimuli that allows them to feel more at ease in the learning environment where first language is the language used for academic purposes. However, when learners are required to perform in the second language setting, it is common for learners to feel anxious as their attention is shifted to avoid making errors in public which in turn threatens their sense of dignity (Horwitz, 2000; Ohata, 2005; Onwuegbuzie, Baley, & Daley, 2000).

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