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The Role of Gender and Motivation on Speaking Skills: The Case of Chinese Students in an ESL Learning Context

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Abstract

The aim of this study is to analyze the relationship between Chinese foreign students' English speaking competence, gender and their English learning motivations. A total of seven learning motivations are selected as the research objects, namely, instructional mental motivation, international motivation, ideal L2 self, intrinsic motivation, Self-regulation, Self-efficacy Beliefs and Self-concept. Based on the current situation that Chinese foreign students are studying in the UK and they have difficulty in speaking in their daily life and study, this study puts forward three research questions. At the same time, the data are classified and processed by SPSS, and finally relevant conclusions are obtained, and the proposed research questions are answered. This study finally finds that ideal L2 self, intrinsic motivation, self-regulation, and students' English speaking ability are closely related, and there are also significant differences between gender and self-regulation.

Keywords: gender, motivation, speaking skills, Chinese students, ESL

1. Introduction

1.1 Background

Second language acquisition is an important research topic in the field of TESOL teaching. In recent years, with the development of internationalization, it has attracted more and more attention from linguists and education scholars. In the theory of second language acquisition, motivation plays an important role. The correlation between students' learning motivation and learning effects has been studied by many scholars (Kim, 2009; Yunus et al., 2011). In addition, there are also much literature on the correlation between the effects of second language acquisition and gender (Goh & Foong, 1997).

1.2 Purpose Statement and Research Questions

By combining gender, language learning motivation and English speaking skill, this study provides a clear understanding of what motivations influence Chinese students' speaking ability in general and how gender and motivation influence speaking learning, and by examining these two issues, the findings can be used to understand how to promote students' English speaking acquisition.

The research questions are:

1) What are the common motivation types that

are related to the study performance of Chinese student with regard to English speaking ability?

2) Is there significant difference of Speaking score between different genders?

3) How does gender affect motivation in English speaking learning?

1.3 Structure of the Text

This study first introduces the background of research questions, and then, motivations related to students' learning of English will be discussed. After that, the methodology of this study will be introduced, which is mainly using the quantitative method to explore the research questions. Apart from the quantitative method, the method of SPSS will be used to analyse the data collected for questionnaires. Based on the results from the data analysis, the research questions will be answered. Finally, implications about teaching and learning will be provided.

2. Literature Review

This chapter will firstly introduce motivation and the relationship of motivation and gender in the acquisition of second language. Secondly, it will provide detailed information about seven factors of L2 motivation and how could these facts interact with gender in L2 learning. In the end, what has been described in this chapter will be summarized and analyzed, and the research questions of this study will finally be given in the context of the current status of previous research.

2.1 Motivation

Motivation plays an important role in second language learning. Gardner and Lambert (1972) suggest that motivation is of vital importance to second language learning. There are many aspects of motivation in language learning. In this study, Instrumental Motivation, International Orientation, Ideal L2 Self, Intrinsic Motivation, Self-Regulation, Self-Efficacy Beliefs and Self-Concept will be examined. A detailed explanation of these motivational factors is presented in the following contexts.

2.2 Gender with Motivation

According to Gardner and Lambert (1972), motivation was previously considered to be a factor influencing language learning performance, and now language learning motivation is also considered to have relevance to gender differences in foreign language acquisition. In addition, many foreign language educators in Canada were concerned about whether male students lacked motivation to learn French, which led them to conduct several studies in which they found that male students were generally less motivated than females in second language acquisition (Massey, 1994). Similar results have been found in examines of British students. Williams, Burden and Lanvers (2002) propose that boys are less motivated to acquire French compared to girls, while girls are more eager to learn French and work harder at it. This further confirms that gender may influence motivation for second language acquisition. However, there are also some studies that show little difference between the different age groups from the perspectives of male and female (Henry & Cliffordson, 2013). Therefore, gender differences in language learning motivation may require more in-depth research. As what has been mentioned about those kinds of motivational characteristics above, whether gender can interact with them separately may be a topic worth investigating.

2.3 Instrumental Motivation

In the area of second language learning and motivation, instrumental motivation seems to gain much attention from researchers. For example, Gardner & MacIntyre (1991) have made research about how instrumental motivation and integrative motivation influence students' French and English vocabulary learning and found that the two motivations all contribute to study. Moreover, Soodmand Afshar, Rahimi & Rahimi (2014) have investigated Iranian EFL learners' instrumental motivation and critical thinking and academic achievement and result showed that instrumental motivation contributes to academic achievement.

According to Iwaniec (2019), in the research area of gender difference in motivation, some language learning goals are studied deeply by scholars. For instance, instrumentality and international orientation are two goals that receive much attention. About gender influencing on instrumental motivation, Luwig (1983) indicates that male students in the universities in US are found to be stimulated more by instrumental motivation than those female students in the survey who studied French, German and Spanish. This means that there might be gender difference in instrumental motivation.

2.4 International Orientation

Beside of instrumental orientation, international orientation is another learning goals in study that could influence L2 learning. In the case of English as a second language, international orientation could be explained that English is regarded as a tool for people from all over the world to communicate. Similarly, according to Iwaniec (2019), this definition could also be described that English is viewed as a Lingua franca which could contribute to communicating with people from all over the world, combining with the concept of international posture from Yashima (2000). This could also be understood in another simple way. For example, if learners could speak English, they could know more people around the world. In addition, according to Yashima (2000: 57), international orientation could include various behaviors: "interest in foreign or international affairs, willingness to go overseas to study or work, readiness to interact with intercultural partners and a non-ethnocentric attitude toward different cultures". Besides, Lamb (2012) also suggests that in Indonesia, young learners are confirmed to have high levels of international motivation. Therefore, international posture seems to appear in various language and second language learning contexts. According to the findings above, international orientation might be a beneficial factor of motivating L2 learning.

2.5 Ideal L2 Self

Ideal L2 self is a concept which comes from L2 Motivational Self System. According to Dörnyei (2005), L2 Motivational Self System is one of the most significant fabrics in recent studies of language acquisition motivation. There are three elements involved in L2 Motivational Self System: the L2 experience and two self-related elements. The two self-related elements are ideal L2 self and ought-to L2 self. Iwaniec (2014) proposes that ideal L2 self is one's potential self who would become an outstanding speaker with high level skills in the future. This means that someone imagine himself or herself becoming a successful L2 user in the future. In addition, ideal L2 self also has been confirmed to be a positive factor in language learning motivation by many studies which are under different learning environment, for example, in Hungary (Csizér & Kormos, 2009) and Japan (Ryan, 2009).

About the L2 Motivational Self System, a large number of research tend to focus on the role of gender. Some researchers made research in Japan (Ryan, 2009) and Sweden (Henry & Cliffordson, 2013), they invited the participants who are English learners in Japan and level three learners for German, French and Spanish. They gained the same result: female language learners are much more willing to imagine themselves to become a successful language user than male learners. The potential reason of this result is that compared with men, women are more tend to build a kind of selves that focus on interacting with others instead of being independent, this stimulates women have more strong sense of ideal L2 self (Henry & Cliffordson, 2013). This seems to provide adequate evidence to demonstrate that women might have higher level of ideal L2 self than men.

2.6 Intrinsic Motivation

Intrinsic motivation is one of the motivation characteristics that often be explored with extrinsic motivation. About the definition of intrinsic motivation, Ryan and Deci (2000) suggest that intrinsic motivation is a kind of motivation from people inner desire and interest to provide motivation for people.

There is not much enough research to discuss about how males and females perform differently in intrinsic motivation when they are learning foreign language. According to Kissau (2006), female learners are found that they tend to be much more motivated by intrinsic motivation than male learners. Furthermore, there is also a study about the difference of level change of intrinsic motivation between males and females in learning. The data of this research came from middle high school students, indicating that boys' intrinsic motivation was found to decrease faster than girls' (Lee & Kim, 2014). According to this finding, a presumption could be made that sometimes even men and women at first have the same level of intrinsic motivation when they are learning, comparing with women, men might do not have enough intrinsic motivation or interest to continue after a long period of learning. About the level difference between gender in intrinsic motivation, Kissau and Salas (2013: 88) suggest that in order to inspire boys' motivation, teachers could make appropriate strategies or provide comfortable learning environment to make them feel cared for or feel ease to accept new knowledge. In conclusion, based on these evidence, intrinsic motivation in second

language acquisition seems have link with gender, more details could be investigated in this study.

2.7 Self-Regulation

Self-regulation is a motivation character that could show the essence of motivation (Dörnyei, 2009). There are some studies on differences in self-regulation indicate that self-regulation might be related to gender difference. For example, Oxford (1994) propose that females generally apply more various and better-quality study strategies than males. This might could facilitate females to achieve higher language level than males. In addition, females have been to reported that they tend to have higher of effort investment which includes motivation intensity and motivation behaviors than males (Okuniewski, 2014). About the perspective of effort investment, there are also much research has researched the same conclusion (Kissau, 2006; Kissau et al., 2010). Consequently, it could be said that gender difference might influence self-regulation and females are in higher levels than males in common results.

2.8 Self-Efficacy Beliefs and Self-Concept

There are also two motivation characteristics that could provide valuable fields to study on how motivation works: self-efficacy beliefs and self-concept. Self-efficacy beliefs refer to learners' awareness of their ability to deal with a task (Bandura, 1997). Self-concept was defined as 'a person's perception of himself' (Shavelson, Hubner, & Stanton 1976, 411).

To describe how gender interacts with self-efficacy beliefs and self-concept, the two motivational aspects are nearly studied together in some investigations. Marsh, Byrne and Shavelson (1988) indicate that compared with men, women generally achieve higher levels in spoken self-concept. Similarly, from the perspective of writing self-concept and writing self-efficacy beliefs, Pajares and Valiante (2001) also propose that females are at higher level than male learners. These descriptions might demonstrate that gender could influence self-concept and self-efficacy beliefs in language learning and generally female learners would perform obviously than male learners. Nevertheless, contrast finding results were also reported. Kissau et al. (2010) claim that there is no gender difference be found in self-efficacy beliefs of American learners who learn Spanish. Consequently, gender seems not a certain factor that could influence self-concept and self-efficacy beliefs in the acquisition of language. This might be a valuable filed worthy studying in depth.

3. Methodology

As mentioned above, there are many factors that influence second language learning and the assessment of second language learning performance appears to be a hot debated topic. Because English is the most commonly spoken language in the world, more literature has looked at second language learners of English as a second language. As the majority of Chinese students who grew up learning English as a second language, they are an ideal subject for second language learning research. Drawing on the findings of previous research on Polish students' motivation to learn English and gender, this paper further explores the general types of motivation that affect Chinese students' English speaking skills and how gender influences these motivational types.

Since the study aims to research common motivation variables, a large number of samples will be needed. Therefore, the quantitative research method will be chosen, which could be helpful to collect extensive data. To collect enough data, one hundred and twenty participants will be involved in the research. In addition, all participants are Chinese students studying in the UK, all of whom are over the age of eighteen. The reason of choosing students studying in the UK is that these Chinese learners have the experience of learning English through language preparatory course or preparing for IELTS, and they also have experience of learning speaking English compared with some Chinese students who do not have enough experience of learning speaking English. Moreover, in order to take gender into consideration, the participants will include both males and females. They will be informed that participation is voluntary and anonymous before the questionnaire is distributed. To deal with these, questionnaire will be chosen to act as the instrument of this research. All data will be collected in the form of an online questionnaire. Because of the need to keep a safe distance from strangers during the epidemic, the method of collecting questionnaires from the internet is the most appropriate and the use of questionnaires is a convenient and effective method for this study and analyzing the data. The questionnaire will include three parts: the introduction of the

questionnaire in the beginning, questions about motivation of English speaking skills in the middle, and questions about the gender and English speaking experience with scores of the participants in the end. The questions about motivations of English speaking skills include seven motivational variables: intrinsic motivation, instrumental motivation, international orientation, self-concept, self-efficacy beliefs, ideal L2 self and self-regulation. Every motivation factor will contain three questions. The final questionnaire will be provided in appendix in the end of this research.

According to Iwaniec (2019), before the formal survey, an initial hypothesis testing will be conducted in order to check for modifications. For example, the questionnaire may not contain accurate questions to fully explain and respond to the research questions. In order to complete this step, around ten of the target participants will be selected to answering the questionnaires. After this, the data will be collected to be provided a preliminary brief analysis. According to the errors or shortcomings showed from the initial hypothesis testing, some changes or improvement could be conducted, this would be helpful to improve the questionnaire and ensure the final quality of the result of the research. After the final collection of data. Likert scales will be utilized to quantify this data and match it to categorical data. Parametric or non-parametric analysis will be applied to explore significant differences in academic performance between motivation and gender to draw conclusions. And a series of tables will be used to present the results of this study. About the more detailed analysis and discussion of the data collected through the questionnaire, the following chapter will provide more comprehensive explanation.

4. Data Analysis

4.1 Introduction

This chapter will introduce the process of data collection and data cleaning in detail. In addition, the data after cleaning will be used for quantitative analysis. Specifically, to explore RQ1, I will use correlation analysis. The reliability and validity of the questionnaire tool will be tested before the correlation analysis being conducted. In the correlation analysis of the data series, it is necessary to pay attention to whether the data meets the normal distribution. If it meets the normal distribution, the Pearson correlation is used for the correlation test in the correlation analysis, otherwise Spearman or Kendall correlation is used for the analysis. In the process of analysing the significant difference of the data sequence, the normal test will also be tested first. If it conforms to the normal distribution, the parameter test technique is directly used to realize the significant difference test; otherwise, the non-parametric test technique is used for the difference significance test.

4.2 Data Cleaning

The overall response rate was 38%, and a total of 137 participants were employed. However, during the data cleaning process, it is found that 10 respondents did not fully answer the questions, 5 respondents filled in invalid numbers in the IELTS score question, and 7 respondents finished all the questions within 1 minute, all these data are regarded as invalid samples, so the final number of valid samples is 115. Regarding the minimum effective sample size of questionnaire surveys, previous researchers' literature shows that in social science questionnaires, the minimum sample size is related to the number of independent variables in the research, and the formula N>50+8n (Tabachnick & Fidell, 2001). There are 8 independent variables in this article, namely 7 motivation constructs and gender factors, which means that the number of samples (N) should be greater than at least 114, and the total number of questionnaires collected in the study is 115, so it meets the requirement of the minimum number of questionnaires, hence, it is possible to proceed to the next analysis.

4.3 Statistical Method

All data collected from wjx.com are manually input into IBM SPSS Statistics 25 statistical software for analysis. In the process of designing the questionnaire, due to the mistakes in the question setting, the answers to some questions lacked a unified format. For example, age and gender were filled in the blanks instead of multiple-choice questions in this questionnaire, resulting in data confusion. However, through data cleaning and statistical standardization, these types of problems have been treated as standard data for analysis. In RQ1, this article attempts to explore the relationship between different learning motivations and speaking scores, and each motivation has three items for

corresponding measurement. Therefore, this article uses 21 question items to construct 7 motivation constructs. C1 to C7 are respectively instrumental motivation, international motivation, ideal L2 self, intrinsic motivation, self-regulation, self-efficacy beliefs and self-concept. The scores of these constructs will be used to analyse the correlation with the speaking scores; in RQ2, this article intends to explore the relationship between gender and learning effect, so the gender category data will be pre-processed in SPSS to generate codes and compare with IELTS scores to perform significant difference analysis. RQ3 aims to explore whether the motives of different genders are different. Therefore, this study adopts the non-parametric test method. Before all analyses are performed, reliability and validity will be verified, and the normal distribution will be tested.

4.4 Descriptive Statistics

Among 115 participants, there were 52 males (45%) and 63 females (55%). Since the population studied in this article is mainly Chinese university students in the UK, the main ages are between 18 and 25 years old, accounting for 81%, and other age groups accounting for 19%. In addition, in terms of education level, all respondents have a bachelor's degree or above, and they have different years of experience in learning English. Specifically, two people answered that they only studied English for less than three years. Although from the perspective of a typical Chinese student, this period is too small, but taking into account different statistical calibres, for example, some people think that only the high school level is considered formal of learning English, the data is still adopted. In addition, 15 people have studied English for less than 5 years, 70 people have studied English for less than 10 years, and 28 people believe that they have studied English for more than 10 years; from the perspective of their mastery of English, 10 people think of themselves as beginners, 30 people think they are at low intermediate level, 58 people think they are intermediate level. In addition, there are 17 people who believe that their English proficiency is at the upper intermedia level or above. This shows that there are students with various English levels in the research sample. The data has a high tolerance, which is conducive to exploring the differences between different motivations and different English levels. Finally, in the answers to the speaking scores, 78 people had IELTS speaking scores between 6 and 7, 20 people between 4.5 and 5.5, 1 person was less than 4.5, and 16 people scored more than 7 points. The specific frequency distribution is as follows (Table 1).

Table 1. Frequency analysis

Item	Description	Frequency	Percentage
Age	18-25	**76**	**72.38%**
	26-35	**22**	**20.95%**
	36-45	**6**	**5.71%**
	Over 46	**1**	**0.95%**
Gender	Male	**28**	**27%**
	Female	**77**	**73%**
Have you studied English abroad before coming to the UK?	Yes	**69**	**50.36%**
	No	**68**	**49.64%**
How long have you been studying English?	3 years or below	**2**	**1.74%**
	5 years or below	**15**	**13.04%**
	10 years or below	**70**	**60.86%**
	Over 10 years	**28**	**24.34%**
How good are you at English?	Beginner	**10**	**8.70%**
	Low intermediate level	**30**	**26.09%**

	Intermediate level	**58**	**50.44%**
	Upper-intermediate level	**10**	**8.70%**
	Advanced learner	**6**	**5.21%**
	Proficient user	**1**	**0.86%**
Could you please share your latest IELTS exam score for speaking?	Less than 4.5	**1**	**0.86%**
	4.5-5.5	**20**	**17.39%**
	6-7	**78**	**67.82%**
	Above 7	**16**	**13.91%**

4.5 Reliability and Validity

4.5.1 Reliability Test

Since this study intends to explore the difference in speaking scores between different motivations, and there are a total of 7 motivations to be studied, the reliability verification needs to be performed 7 times. Specifically, each motivation is composed of three items, so the reliability of the three questions in the sequence from Q1 to Q21 so that it is possible to complete the reliability verification of all motivation constructs. It is generally believed that the reliability coefficient should be between 0-1. If the reliability coefficient of the scale is above 0.9, it means that the reliability of the scale is very good; if the reliability coefficient of the scale is between 0.8-0.9, it means that the reliability of the scale is acceptable; if the reliability coefficient of the scale is between 0.7 and 0.8, it means that the scale needs to be revised; if the reliability factor of the scale is below 0.7, it means that the scale needs to be discarded (Kline, 1999).

Table 2. Results of Cronbach α

Construct	**Item**	**CITC**	**Cronbach α**
Instrumental motivation (C1)	1. I learn speaking English because it is a must to get a good job.	0.483	**0.744**
	2. The things I want to do in the future require me to use speaking English.	0.634	
	3. I learn speaking English because it helps me gain more opportunities to earn.	0.556	
International motivation (C2)	4. If I spoke English better, I could communicate with more people from all over the world.	0.598	**0.823**
	5. Being good at speaking English makes me be able to work with people from different countries.	0.781	
	6. Being good at speaking English could help me understand different people from all over the world.	0.678	
Ideal L2 self (C3)	7. I want to improve my English-speaking skills.	0.474	**0.721**
	8. I enjoy the feeling of accomplishing difficult exercises in speaking English learning.	0.604	
	9. When I learn something new while speaking English, I feel happy and satisfied.	0.696	
Intrinsic motivation (C4)	10. When I imagine my future job, I see myself using speaking English.	0.678	**0.760**
	11. I often imagine myself speaking English fluently.	0.715	
	12. I often imagine myself communicating in English abroad.	0.407	
Self-regulation	13. I am confident that I will be able to use speaking English successfully in my future job.	0.693	**0.858**

(C5)			
	14. I am sure that I could be able to understand general conversation in English.	0.756	
	15. I am confident that I could get my ideas across clearly when speaking English.	0.757	
Self-efficacy beliefs (C6)	16. I think I'm better at speaking English than most of my classmates.	0.837	**0.934**
	17. I always did well in speaking English in the past.	0.889	
	18. I often get good marks in speaking English.	0.865	
Self-concept (C7)	19. I try to find chances to practice my speaking English.	0.615	**0.770**
	20. I try to learn and improve my speaking English by watching films in English and listening to music in English.	0.554	
	21. I have my own unique methods to make even the most boring activities more interesting.	0.661	

It can be seen from the above table that all Cronbach α values are greater than 0.7, which is at an acceptable level, and there are C2, C5 and C6 α values greater than 0.8, which means that these constructs are highly reliable and can be tested in the next step.

4.5.2 Validity Test

The questions in the questionnaire all come from previous research and sufficient structural validity research has been done, and the research topics are very similar. However, because the group targeted by the study is Chinese students, and the questionnaire has been modified to suit the interviewees, it is still necessary to test the structural validity of the questionnaire. Specifically, the validity of the questionnaire will be tested through exploratory factor analysis, which is a factor analysis technique that can effectively identify potential relationships between different variables. (Norris & Lecavalier, 2010).

Table 3. KMO and Bartlett test

KMO and Bartlett's Test								
		Instrumental motivation	International motivation	ideal L2 self	Intrinsic motivation	self-regulation	self-efficacy beliefs	self-concept
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.650	0.672	0.635	0.714	0.727	0.758	0.682
Bartlett's Test of Sphericity	Approx. Chi-Square	39.849	127.846	83.651	159.697	144.973	261.392	86.279
	df	3	3	3	3	3	3	3
	Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000

In this validity test model, two indicators are used to measure the adequacy of sampling and the appropriateness of factor analysis, namely the KMO value and the Bartlett spherical test value (Kaiser, 1974). Specifically, in the samples of C1, C2, C3 and C7, the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy is between 0.6 and 0.7, and sig.<0.05, indicating that factor analysis can be used for testing; in C4 in the samples of C5 and C6, the values of Kaiser-Meyer-Olkin Measure of Sampling Adequacy are 0.714, 0.727 and 0.758

respectively, and sig.<0.05, indicating that it is very suitable for factor analysis to test. Therefore, factor analysis is available to be done, which is shown as the Table 4.

Table 4.

Total Variance Explained for C1						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	1.732	57.743	57.743	1.732	57.743	57.743
2	0.692	23.079	80.822	-	-	-
3	0.575	19.178	100	-	-	-
Total Variance Explained for C2						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	2.254	75.126	75.126	2.254	75.126	75.126
2	0.501	16.686	91.813	-	-	-
3	0.246	8.187	100	-	-	-
Total Variance Explained for C3						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	1.967	65.577	65.577	1.967	65.577	65.577
2	0.666	22.211	87.788	-	-	-
3	0.366	12.212	100	-	-	-
Total Variance Explained for C4						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	2.378	79.282	79.282	2.378	79.282	79.282
2	0.41	13.653	92.935	-	-	-
3	0.212	7.065	100	-	-	-
Total Variance Explained for C5						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	2.295	76.501	76.501	2.295	76.501	76.501
2	0.463	15.43	91.931	-	-	-
3	0.242	8.069	100	-	-	-
Total Variance Explained for C6						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance

1	2.607	86.915	86.915	2.607	86.915	86.915
2	0.214	7.122	94.037	-	-	-
3	0.179	5.963	100	-	-	-
Total Variance Explained for C7						
Factor	Eigen values			% of variance (Rotated)		
	Eigen	% of Variance	Cum. % of Variance	Eigen	% of Variance	Cum. % of Variance
1	1.975	65.828	65.828	1.975	65.828	65.828
2	0.602	20.069	85.897	-	-	-
3	0.423	14.103	100	-	-	-

The data in this study uses the maximum variance rotation method (varimax) to rotate in order to find the correspondence between factors and research items. The table in Table 4 shows the information extraction of factors for research items, as well as the corresponding relationship between factors and research items. From the above table, we can see that the commonness value corresponding to all research items is higher than 0.4, which means that there is a strong relationship between research items and factors. Relevance, factors can effectively extract information. After ensuring that the factor can extract most of the information of the research item, then analyze the corresponding relationship between the factor and the research item when the absolute value of the factor loading coefficient is greater than 0.4, it means that the item has a corresponding relationship with the factor (SPSSAU, 2021).

4.6 Correlation Analysis

4.6.1 Normality Test

Before the correlation and significance test, the normal distribution is first tested to determine the appropriate test method, and the results are shown as the below.

Table 5. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test							
		C1	C2	C3	C4	C5	C6	C7
N		115	115	115	115	115	115	115
Normal Parameters a, b	Mean	5.37	4.13	4.63	5.03	5.51	8.19	6.30
	Std. Deviation	2.470	2.029	2.104	2.747	2.628	3.560	2.828
Most Extreme Differences	Absolute	.177	.312	.219	.246	.175	.099	.142
	Positive	.177	.312	.219	.246	.175	.099	.142
	Negative	-.169	-.288	-.219	-.230	-.169	-.095	-.122
Test Statistic		.177	.312	.219	.246	.175	.099	.142
Asymp. Sig. (2-tailed)		.000c	.000c	.000c	.000c	.000c	.013c	.000c
Exact Sig. (2-tailed)		.002	.000	.000	.000	.003	.239	.027
Point Probability		.000	.000	.000	.000	.000	.000	.000
a. Test distribution is Normal.								
b. Calculated from data.								
c. Lilliefors Significance Correction.								

As can be seen from the above table, the results of the KS test on the data show that: C1, C2, C3,

C4, C5, C7 a total of 5 items are significant ($p<0.05$), which means C1, C2, C3, C4, C5 and C7does not have the characteristic of normality. In addition, a total of C6 is not significant ($p>0.05$), which means that C6 has the characteristic of normality.

4.6.2 Pearson Correlation Test

Table 6. Pearson Correlation Test

Pearson Correlation Test		
		Speaking
C6	Correlation coefficient	-0.070
	p Value	0.480
* $p<0.05$ ** $p<0.01$		

From the above table, we can use correlation analysis to study the correlation between Speaking and C6 respectively and use the Pearson correlation coefficient to indicate the strength of the correlation. Specific analysis shows that:

The correlation coefficient value between Speaking and C6 is -0.070, which is close to 0, and the p value is 0.480>0.05, which shows that there is no correlation between Speaking and C6.

4.6.3 Spearman Correlation Test

Since C1, C2, C3, C4, C5, C7 do not conform to the normal distribution, the Spearman correlation test can be used. Spearman test is essentially a rank correlation based on rank scores, and a similar test of Pearson correlation can be done with the help of rank scores. In Spearman correlation analysis, two values can usually be obtained. One is the correlation coefficient, which reflects the level and direction of the correlation between the two columns of data; the other is the test probability, that is, the possibility that the two columns of data are not correlated (Bartholomew, 1995). When the test probability value is less than 0.05, it indicates that there is a correlation between the two columns of data. After the Spearman correlation test between the Speaking score and each motivation, the results are as follows:

Table 7. Spearman Correlation

Spearman Correlation (Detail)		
		Q25
C1	Coefficient	0.009
	p value	0.923
C2	Coefficient	-0.076
	p value	0.419
C3	Coefficient	**0.214***
	p value	**0.022**
C4	Coefficient	**0.187***
	p value	**0.045**
C5	Coefficient	**0.205***
	p value	**0.028**
C7	Coefficient	-0.01
	p value	0.914
* p<0.05 ** p<0.01		

As can be seen from the above table, we use correlation analysis to study the correlation between Speaking and C1, C2, C3, C4, C5, and C7, respectively, and use Spearman correlation coefficient to indicate the strength of the correlation. Specific analysis shows that:

The correlation coefficient value between Speaking and C1 is 0.009, which is close to 0, and the P value is 0.923>0.05, which shows that there is no correlation between Speaking and C1. The correlation coefficient value between Speaking and C2 is -0.076, which is close to 0, and the P value is 0.419>0.05, which shows that there is no correlation between Speaking and C2. The correlation coefficient value between Speaking and C3 is 0.214, and shows a significance level of 0.05, which shows that there is a significant positive correlation between Speaking and C3. The correlation coefficient value between Speaking and C4 is 0. 187, and shows a significance level of 0.05, which shows that there is a significant positive correlation between Speaking and C4. The correlation coefficient value between Speaking and C5 is 0.205, and shows a significance level of 0.05, which shows that there is a significant positive correlation between Speaking and C5. The correlation coefficient value between Speaking and C7 is -0.010, which is close to 0, and the P value is 0.914>0.05, which shows that there is no correlation between Speaking and C7.

4.6.4 Statistical Significance Test for Gender

The RQ2 of this research aims to explore whether gender can affect speaking scores, so the most appropriate data analysis method is

significant difference analysis. Before the significant difference analysis, the data needs to be tested for normality. If the data conforms to the normal distribution, the parametric analysis method is used, otherwise, the non-parametric analysis method is used. In this study, the distribution of spoken English scores for 115 samples is as follows.

Table 8. Normality test

Normality test									
Items	N	Mean	Std.	Skewness	kurtosis	Kolmogorov-Smirnov test		Shapro-Wilk test	
						Statistic D	p	Statistic W	p
Speaking	115	5.939	0.765	-0.288	0.409	0.181	0.000**	0.95	0.000**
* p<0.05 ** p<0.01									

For the variable of Speaking, the normality test is performed. From the above table, it can be seen that the sample size of the research data is all greater than 50, so the K-S test is used. Specifically, it all shows significance (p<0.05), which means it rejects the null hypothesis (null hypothesis: data is normally distributed). Hence, it does not have the characteristic of normality.

For the non-normal distribution data, the non-parametric analysis can be used to test the significance, and the result is shown as the below.

Table 9. Non-parametric test

Non-parametric test					
	Q22 Median (P25, P75)		Mann Whitney U	Mann Whitney z	p
	Female (n=77)	Male (n=38)			
Speaking	6.000(5.5,6.4)	6.000(5.9,7.0)	1061.5	-2.361	0.018*
* p<0.05 ** p<0.01					

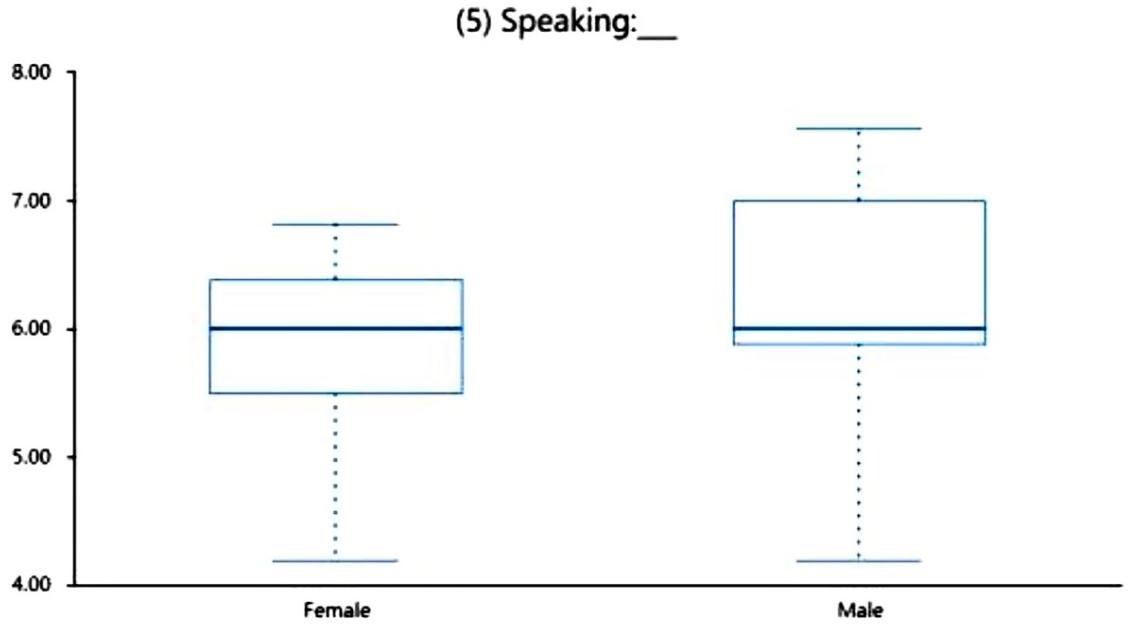

Figure 1.

It can be seen from the above table that the non-parametric test is used to study the difference of gender for Speaking scores. From the above table, it can be seen that the variable of gender consists of two groups (Female, Male), so Mann Whitney test statistics are used for analysis. Different gender samples are significant for all Speaking score ($p<0.05$), which means that different gender samples are different for Speaking score. Specific analysis shows that gender for Speaking score showed a significant difference at the 0.05 level ($p=0.018<0.05$), and the specific comparison of the median difference shows that the medians are equal. It can be summarized that the different gender samples show significant differences for Speaking score, and the male group generally has a higher Speaking score than that of female group.

4.6.5 Statistical Significance Test for Motivations

After exploring the correlation between gender and the score of spoken English, we have another question, that is, whether gender is related to motivation, in other words, it is possible that different genders have different motivations for learning English. Hence, we did another study on the significant differences between motivation and gender, and the results are as follows.

Table 10. Non-parametric test for motivations

Nonparametric test					
	Q22 Median (P25, P75)		Mann Whitney U	Mann Whitney z	p
	Female (n=77)	Male (n=38)			
C1	5.000(3.0,7.0)	5.000(3.0,7.0)	1455.5	-0.045	0.964
C2	3.000(3.0,4.0)	3.000(3.0,3.5)	1249.5	- 1.474	0.14
C3	4.000(3.0,5.5)	5.000(3.0,6.0)	1400	-0.39	0.697
C4	4.000(3.0,6.0)	4.000(3.0,6.0)	1457	-0.038	0.97
C5	5.000(3.0,7.5)	6.000(3.0,9.3)	1143.5	- 1.936	0.049*
C6	9.000(5.0,11.0)	9.500(6.8,12.5)	1202	- 1.561	0.118
C7	6.000(4.0,8.0)	6.000(4.0,8.0)	1442	-0.126	0.9
* p<0.05 ** p<0.01					

It can be seen from the above table that the non-parametric test is used to study the difference of gender for C1, C2, C3, C4, C5, C6, and C7. It can be seen from the above table: gender consists of two groups (Female, Male) Therefore, the Mann Whitney test statistic was used for analysis. Different gender samples are not significant for C1, C2, C3, C4, C6, C7 ($p>0.05$), which means that different gender samples for C1, C2, C3, C4, C6, C7 showed consistency, and there was no difference. However, the p value for C5 is $0.049<0.05$ which means that there is a significant difference between different genders of C5 motivation.

5. Conclusion and Limitations

In conclusion, since the number of Chinese students studying in the UK has been increasing in recent years, one of the criteria that depends on whether the student can be admitted to the university is the English language score. The test commonly used to measure students' English ability is the IELTS test. Chinese students must reach a certain score before they can enter a British university. However, an interesting phenomenon is that even if Chinese students pass the language test, they still express anxiety in the ability to speak English. In order to explore the problems, this research combines language learning motivation and gender to explore the relevance. A total of seven motivations are listed in this research. They are instrumental motivation, international motivation, ideal L2 self, intrinsic motivation, self-regulation, self-efficacy beliefs, and self-concept. A total of 115 pieces of valid data were collected through questionnaire surveys, and the 115 pieces of data were sorted. Then analyzed the data with SPSS, and got the following conclusions.

(1) It is found through the normality test that only this normality test is passed. So for C1, C2,

C3, C4, C5 and C7, Spearman Correlation Test is adopted, and for C6, Pearson Correlation Test is adopted.

(2) Through the above test, this study found that there is no relationship between C1, C2, C6, C7 and oral English, but there is a close relationship between C3, C4, and C5 and students' oral ability.

(3) Through the Non-parametric test, data analysis found that there are significant differences in oral English between different genders, and boys' oral scores are generally higher than those of girls.

(4) Through the non-parametric test, after data analysis, it is found that there are significant differences between C5 and different genders. Combined with the conclusions after data analysis, this research discusses several learning motivations that affect Chinese international students, such as the motivation of Ideal L2 self, Intrinsic motivation, Self-regulation motivation, and the implications for the teaching and learning of English.

(5) When discussing the relationship between gender and oral performance, I found a result that contradicted the conclusion of self-regulation, and thus discovered the limitations of this study.

5.1 Limitations

Although this study has collected a large amount of data and made an in-depth analysis of the collected data, the whole study has some shortcomings of quantitative analysis because only a single quantitative analysis method is adopted. For example, this study pays too much attention to numbers, and students' English proficiency is a very broad topic, which is difficult to quantify. Besides, we can easily think that quantitative research is more credible or scientific than qualitative research. In fact, quantitative research may also be subjective and misleading. For example, in the questionnaire survey of this study, the setting of questions in the questionnaire has a strong personal subjective color, which eventually leads to some invalid data collected and difficult to sort out. These are the limitations of this study.

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