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A Comparative Study of Cognitive Models of Chinese Language Proficiency Acquisition for International Chinese Students in Long-Term Immersion and Non-Immersion Environments

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SUMMARY: *The smooth development of international students in China in their academic progress and interpersonal communication cannot be achieved without the support of excellent Chinese language proficiency acquisition. This paper combines existing research and actual situations, takes the immersion level of international students in Chinese language environment as the core influence factor, and puts forward relevant research questions. The experimental samples are selected and the Chinese pragmatic competence acquisition test is conducted to confirm the feasibility of the study based on the test data. The Chinese language proficiency of international students was taken as the dependent variable, and language shock, cultural shock and immersion environment were taken as the independent variables. A Chinese language acquisition cognition model was constructed and analyzed by multiple statistical regression, and it was determined that language shock, culture shock and immersion environment were the most important factors influencing the acquisition cognition of Chinese language proficiency of international students. Among them, immersion environment has the most significant influence (P=0.000), with a regression coefficient of 0.941, which indicates that international students in long-term immersion environment have better cognitive acquisition of Chinese language proficiency.*

KEYWORDS: *Chinese language proficiency acquisition; immersion environment; multivariate statistical regression; international students in China.*

1 Introduction

Chinese pragmatic competence refers to the ability to use the Chinese language for decent communication [1]. It is based on Chinese language proficiency and relies on a specific communicative situation, which is embodied, formed and developed in practice. In recent years, with the strengthening of China's internationalization, the number of international students coming to China has been increasing [2]. For international students, Chinese pragmatics is not only a language skill, but also an important foundation for their smooth academic, life and communication during their study in China, so the acquisition of Chinese pragmatics by international students is of utmost importance [3, 4].

Among many factors affecting the acquisition of Chinese language proficiency of international students coming to China, immersive and non-immersive environments are one of the most important factors affecting their acquisition effects. Immersion and non-immersion are two opposing concepts. Immersion teaching appeared in Canada in the 1960s, providing a new mode of thinking for the traditional non-immersion Chinese language proficiency acquisition

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[5, 6]. It fully immerses international students in the Chinese language environment, thus allowing them to better experience and learn the Chinese language in a concrete and meaningful context [7, 8].

The immersive Chinese language environment can be artificially created by teachers with the help of actual teaching equipment and teaching scenarios, which is overloaded from full Chinese to the mother tongue of the students studying abroad, and gradually strengthens the learning of the mother tongue after the students have mastered a certain degree of Chinese language foundation [9-11]. This process requires students to use only the Chinese language in their life learning and fixed time periods, thus blocking the interference of the mother tongue, not only to realize the acquisition of Chinese pragmatic competence, but also to be able to use Chinese as a tool [12, 13]. Compared with the traditional second language, i.e., non-immersion teaching, the educational approach through long-term immersion is more effective in allowing learners to focus on learning and achieve higher learning efficiency [14-16]. Due to the differences between long-term immersion and non-immersion environments in terms of language output and input, cognitive processing, etc., comparing the effects of the two on the cognitive model of Chinese language proficiency acquisition of Chinese language learners studying in China is not only conducive to the understanding of the intrinsic mechanism of Chinese language acquisition, but also provides a reference to optimize the teaching program.

In this paper, we define the research questions, select the research samples, and determine linear correlation analysis and multivariate statistical regression model as the main research methods. Through the two-part tests of Chinese word meaning comprehension and word choice, we initially explored the influence of immersion environment on the acquisition of Chinese pragmatic competence of international students coming to China. On this basis, the research variables were set and the linear correlation between the variable systems was tested, and multiple linear regression analysis was conducted on the research variables to respond to the research questions and summarize the influence and extent of the effects of long-term immersion and non-immersion environments on the cognition of Chinese language proficiency acquisition of international students coming to China.

2 Preparation of the study

2.1 Research questions

This study aims to investigate the relevant factors affecting the acquisition of Chinese pragmatic competence of international students coming to China, and the specific questions are as follows:

(1) Is the acquisition of Chinese pragmatic competence by international students affected by language environment factors?

(2) Is the acquisition of Chinese pragmatic competence by international students affected by cultural factors?

(3) Is the acquisition of Chinese language proficiency by international students affected by the relevance of their mother tongue?

(4) Is the acquisition of Chinese language proficiency by international students affected by their immersion time in the Chinese language environment?

2.2 Research sample

In this paper, a total of 12 colleges and universities in a municipal area were used as the sample source, and a total of 350 international students in a long-term immersion environment and 350 international students in a non-long-term immersion environment were randomly selected.700

students' native languages were mainly East Asian, with a small number of English native speakers. The students' majors varied, and they had all received systematic Chinese language learning before the study.

3 Research methodology

3.1 Linear correlation analysis

Correlation analysis is a test of the correlation between the independent variables and the dependent variable and is a precursor to linear regression analysis.

If correlation analysis reveals that some independent variables are not correlated with the dependent variable, regression analysis is not necessary.

If correlation exists, the exact relationship between them is further verified through regression analysis. In addition, correlation analysis can also determine the covariance of the respective variables; if some of the independent variables have high correlation, then covariance may exist.

In statistics, correlation analysis is usually described by Pearson's correlation coefficient. It is denoted by r as in equation (1).

$$r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \cdot \sum_{i=1}^{n}(y_i - \bar{y})^2}} \tag{1}$$

where n is the number of samples, and

x_i, y_i is the i point observation corresponding to the variables x, y.

$\bar{x}$ is the x sample mean and $\bar{y}$ is the y sample mean.

From the formula, it can be seen that the value of r ranges from $[-1,1]$, if $|r| < 1$, then the closer $|r|$ is to 1, the higher the correlation between x and y. If $r = 0$, there is no linear correlation between x and y; if $r = -1$, x and y have a perfectly negative linear correlation; if $r = 1$, x and y have a perfectly positive linear correlation.

3.2 Multivariate statistical regression models

3.2.1 Multiple linear regression models

Univariate linear regression is the process of analyzing a process in which only one independent variable affects the dependent variable, however, in reality, changes in the dependent variable are generally confounded by more than one factor, so explaining a change in the dependent variable often requires the consideration of 2 or more independent variables, which is the definition of multiple regression. When there is a linear relationship between the dependent and independent variables in multiple regression, it is called multiple linear regression.

Let the dependent variable be Y, and the independent variables that interfere with it are $x_1, x_2, \cdots, x_k$, and the multiple linear regression model is generally Equation (2):

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k + \varepsilon \tag{2}$$

where $\beta_0, \beta_1, \beta_2, \cdots, \beta_k$ represent the parameters of the model, and ε denotes the model error term.

Before establishing the multiple linear regression model, the model should meet the following assumptions:

(1) The interfering variable x has a linear relationship with the dependent variable Y;

(2) The variance ε of σ^2 is the same for all values of the intervening variables $x_1, x_2, \cdots, x_k$;

(3) In performing repeated multiple sampling, the interfering variables $x_1, x_2, .\cdots, x_k$ are taken to be deterministic;

(4) The expected value of the model error term ε is 0, i.e., $E(\varepsilon) = 0$, which indicates that the expected value of Y is as in Equation (3) for an arbitrarily given set of values of the interfering variables $x_1, x_2, \cdots, x_k$:

$$E(Y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k \quad (3)$$

(5) The model error term ε satisfies a normal distribution, i.e., $\varepsilon \sim N(0, \sigma^2)$. It shows that for any given set of $x_1, x_2, \cdots, x_k$ values, the dependent variable Y likewise obeys a normal distribution;

(6) The model error terms ε are independent of each other, which means that for any given set of $x_1, x_2, \cdots, x_k$, its associated ε is independent of other $x_1, x_2, \cdots, x_k$ related ε are independent of each other.

3.2.2 Stepwise linear regression

In the case of a large number of independent variables, the variables may show a high degree of correlation with each other, and when such a relationship is presented, it can seriously affect the regression results, in order to solve this kind of situation, stepwise linear regression is generally used in mathematics to screen and remove the independent variables that will cause multiple covariance.

Stepwise linear regression consists of substituting the selected variables into the model sequentially, first performing a simple regression of all the predictor variables with the predicted variables, then using the regression equation corresponding to the predictor variable that contributes most to the predicted variables as the root, and then gradually adding the rest of the predictor variables. The F test is performed after each new predictor variable is added, and the t test is performed on each of the selected predictor variables, and the introduced predictor variables are removed if they become insignificant in the model due to the subsequent introduction of the predictor variables. This ensures that only significant variables are included in the regression equation before each new predictor is introduced. After screening by stepwise regression, the final model contains predictor variables that are not only relatively significant, but also do not have serious multicollinearity with each other.

The steps of stepwise linear regression are as follows: (1) removing the predictor variables from the regression model that are not significant after testing; (2) is introducing new predictor variables in the regression model.

Stepwise linear regression is generally divided into forward stepwise regression and backward stepwise regression.

Forward Stepwise Regression: Its essence is that the number of predictor variables increases from less to more, and one new predictor variable is added at a time until all predictor variables are used up. The relevant operations are as follows:

Operation 1: For p regression predictor independent variables $X_1, X_2, \cdots, X_p$, respectively, with the dependent variable Y to establish a univariate regression model as equation (4):

$$Y = \beta_0 + \beta_i X_i + \varepsilon, i = 1, \cdots, p \tag{4}$$

Calculate the predictor variable X_i and write the value of the statistic corresponding to the regression coefficient F test as $F_1^{(1)}, \cdots, F_p^{(1)}$, with the maximum value written as $F_{i_1}^{(1)}$ as in equation (5):

$$F_{i_1}^{(1)} = \max\left\{F_1^{(1)}, \cdots, F_p^{(1)}\right\} \tag{5}$$

For a specified significance level α, the corresponding critical value is noted as $F^{(1)}$, and the predictor variable X_{i_1} is introduced into the regression model if $F_{i_1}^{(1)} \geq F^{(1)}$ and I_1 represents the indicator set of the variable enrolled.

Operation 2: Create a regression model of the dependent variable Y with a subset of predictor variables $\left\{X_{i_1}, X_1\right\}$, ..., $\left\{X_{i_1}, X_{i_1-1}\right\}$, $\left\{X_{i_1}, X_{i_1+1}\right\}$, ..., $\left\{X_{i_1}, X_p\right\}$ binary regression model (two predictor variables) , containing a total of $p-1$. And calculate the value of the statistic of the regression coefficient F test for the predictor variables, denoted as $F_k^{(2)}(k \notin I_1)$, with the largest one being denoted as $F_{i_2}^{(2)}$, whose corresponding predictor variable is subscripted as i_2, i.e., Eq. (6):

$$F_{i_2}^{(2)} = \max\left\{F_1^{(2)}, \cdots, F_{i_1-1}^{(2)}, F_{i_1+1}^{(2)}, \cdots, F_p^{(2)}\right\} \tag{6}$$

For a specified significance level α, the corresponding critical value is noted as $F^{(2)}$, and if $F_{i_2}^{(2)} \geq F^{(2)}$, the predictor variable X_{i_2} is introduced into the regression model. If $F_{i_2}^{(2)} \geq F^{(2)}$ is not satisfied, the introduction of new predictor variables is stopped.

Operation 3: The regression of the dependent variable on a subset of predictor variables $\left\{X_{i_1}, X_{i_2}, X_k\right\}$ ternary regression model Repeat operation 2 as soon as possible.

Repeat the operation as described above, selecting one predictor variable that has not been introduced into the regression model at a time, until no new predictor variables can be introduced into the model after the correlation test.

Backward stepwise regression is the opposite of forward stepwise regression in that it first introduces all the predictor variables into the regression model, and then removes in turn the predictor variables that have a small effect on the sum of squares of the model residuals.

4 Constructing and Testing the Cognitive Model of Chinese Language Proficiency Acquisition

4.1 Chinese language proficiency in immersive and non-immersive environments

The questionnaire is divided into two parts: the first part is about understanding the meaning of Chinese words, i.e. judgment questions, with a total of 30 questions; the second part is about choosing suitable Chinese words to complete sentences, i.e. fill-in-the-blank questions, with the same 30 questions. The two parts of a total of 30 Chinese words body, in order: Shenling, again and again, cow temper, great, five flavor bottles, all the way to the wind, sweet and sour, sesame blossoms, section high, blind man groping for fish, luck, open the night train, sinus, June days, the child's face, eyes not see, heart not bother, the first calf, kung fu is not a reward for the people, the rich and powerful in the search for, buckle the hat, go with the flow, colorful, talk to themselves, Effortlessness, not listening to what is going on outside the window, getting into trouble, making a fool of oneself, empty city, singing the white face, chiseling the wall, and the holy book.

The collected questionnaire data were categorized into two groups of international students coming to China in long-term immersion and non-immersion environments. The responses of international students in China in the long-term immersion environment (IIELT) on the first part of the questionnaire are shown in Table 1, and the responses of international students in China in the non-immersion environment (NIE) on the first part of the questionnaire are shown in Table 2.On the whole, international students in the long-term immersion environment have reached a usable level of understanding of the meaning of Chinese words (71.31%), which is significantly better than the level of understanding of Chinese word meaning (45%) and the level of understanding of the semantic meaning (45%) of Chinese word meaning (45%) of the non-immersion students. The level of semantic understanding of Chinese words in the long-term immersion environment has reached the usable level (71.31%), and is significantly better than that of the non-immersion environment (45.28%).

Table 1: The first part of the questions for international students in China(IIELT)

Item	Number of options		Right answers	Accuracy rate(%)
	True	False		
1	287	63	TRUE	82.00
2	93	257	FALSE	73.43
3	252	98	TRUE	72.00
4	247	103	TRUE	70.57
5	98	252	FALSE	72.00
6	95	255	FALSE	72.86
7	245	105	TRUE	70.00
8	238	112	TRUE	68.00
9	229	121	TRUE	65.43
10	59	291	FALSE	83.14
11	228	122	TRUE	65.14
12	52	298	FALSE	85.14
13	53	297	FALSE	84.86
14	254	96	TRUE	72.57
15	45	305	FALSE	87.14
16	268	82	TRUE	76.57
17	92	258	FALSE	73.71
18	101	249	TRUE	28.86
19	210	140	TRUE	60.00
20	78	272	FALSE	77.71
21	235	115	TRUE	67.14
22	256	94	TRUE	73.14
23	243	107	TRUE	69.43
24	226	124	TRUE	64.57
25	91	259	FALSE	74.00
26	84	266	FALSE	76.00
27	221	129	TRUE	63.14
28	97	253	FALSE	72.29
29	203	147	TRUE	58.00
30	68	282	FALSE	80.57
Average				71.31

Table 2: The first part of the questions for international students in China(NIE)

Item	Number of options		Right answers	Accuracy rate(%)
	True	False		
1	60	290	TRUE	17.14
2	95	255	FALSE	72.86
3	52	298	TRUE	14.86
4	71	279	TRUE	20.29
5	77	273	FALSE	78.00
6	106	244	FALSE	69.71
7	111	239	TRUE	31.71
8	130	220	TRUE	37.14
9	54	296	TRUE	15.43
10	106	244	FALSE	69.71
11	108	242	TRUE	30.86
12	90	260	FALSE	74.29
13	66	284	FALSE	81.14
14	59	291	TRUE	16.86
15	109	241	FALSE	68.86
16	32	318	TRUE	9.14
17	49	301	FALSE	86.00
18	39	311	TRUE	11.14
19	95	255	TRUE	27.14
20	98	252	FALSE	72.00
21	79	271	TRUE	22.57
22	74	276	TRUE	21.14
23	128	222	TRUE	36.57
24	123	227	TRUE	35.14
25	93	257	FALSE	73.43
26	61	289	FALSE	82.57
27	76	274	TRUE	21.71
28	65	285	FALSE	81.43
29	59	291	TRUE	16.86
30	131	219	FALSE	62.57
Average				45.28

The responses of international students in a long-term immersion environment (IIELT) in Part II are shown in Table 3, and the responses of international students in a non-immersion environment (NIE) in Part II are shown in Table 4.Both international students in a long-term immersion environment and NIE did not do as well as in Part I because of the increase in difficulty of the multiple-choice questions compared to the judgment questions. The reason is that the multiple-choice questions were more difficult than the judgment questions. The average accuracy rate of international students in the long-term immersion environment was 60.94%, which was just above the passing line, while the average accuracy rate of international students in the non-immersion environment was only 33.47%, which fully verified the influence of the language environment on international students' mastery of Chinese vocabulary.

Table 3: The second part of the questions for international students in China(IIELT)

Item	Number of options			Right Answers	Accuracy Rate(%)
	A	B	C		
31	77	224	49	B	64.00
32	197	78	75	A	56.29
33	213	85	52	A	60.86
34	239	78	33	A	68.29
35	59	61	230	C	65.71
36	298	31	21	A	85.14
37	68	63	219	C	62.57
38	49	37	264	C	75.43
39	49	267	34	B	76.29
40	56	70	224	C	64.00
41	51	68	231	C	66.00
42	136	76	138	A	38.86
43	113	67	170	C	48.57
44	91	93	166	B	26.57
45	142	87	121	C	34.57
46	116	89	145	A	33.14
47	34	42	274	C	78.29
48	97	178	75	B	50.86
49	84	169	97	B	48.29
50	42	51	257	C	73.43
51	195	54	101	A	55.71
52	73	209	68	B	59.71
53	65	215	70	B	61.43
54	57	58	235	C	67.14
55	39	46	265	C	75.71
56	255	51	44	A	72.86
57	64	231	55	B	66.00
58	67	73	210	C	60.00
59	47	219	84	B	62.57
60	63	245	42	B	70.00
Average					60.94

Table 4: The second part of the questions for international students in China(NIE)

Item	Number of options			Right Answers	Accuracy Rate(%)
	A	B	C		
31	100	95	155	B	27.14
32	107	142	101	A	30.57
33	101	71	178	A	28.86
34	93	149	108	A	26.57
35	119	112	119	C	34.00
36	80	110	160	A	22.86
37	72	124	154	C	44.00
38	87	82	181	C	51.71
39	117	97	136	B	27.71
40	139	142	69	C	19.71
41	78	134	138	C	39.43
42	144	148	58	A	41.14
43	141	71	138	C	39.43
44	109	90	151	B	25.71
45	111	90	149	C	42.57
46	82	52	216	A	23.43
47	105	75	170	C	48.57
48	143	69	138	B	19.71
49	62	119	169	B	34.00
50	64	137	149	C	42.57
51	94	141	115	A	26.86
52	107	110	133	B	31.43
53	88	98	164	B	28.00
54	139	128	83	C	23.71
55	97	63	190	C	54.29
56	132	61	157	A	37.71
57	62	146	142	B	41.71
58	137	116	97	C	27.71
59	91	118	141	B	33.71
60	60	102	188	B	29.14
Average					33.47

4.2 Cognitive Acquisition of Chinese Language Proficiency Based on Linear Regression

4.2.1 Selection of research variables and descriptive statistics

In light of the research questions posed in Chapter 2, this section introduces the concepts of “linguistic shock” and “cultural shock”, which refer to learners' fear of using a second language, and can be subdivided into personality-based linguistic shock, environment-based linguistic shock, and environmental-based linguistic shock. It can be subdivided into personality-based language shock and environment-based language shock. Culture shock refers to learners' anxiety when they enter the target language group. The dependent variable of the study is the acquisition of Chinese language proficiency by international students coming to China, and the independent variables are language shock, culture shock and immersion environment. In order to facilitate the analysis of the study, the value 0~100 is used to describe the level of the sample on each variable, and the larger the value, the better the level of the sample on the variable.

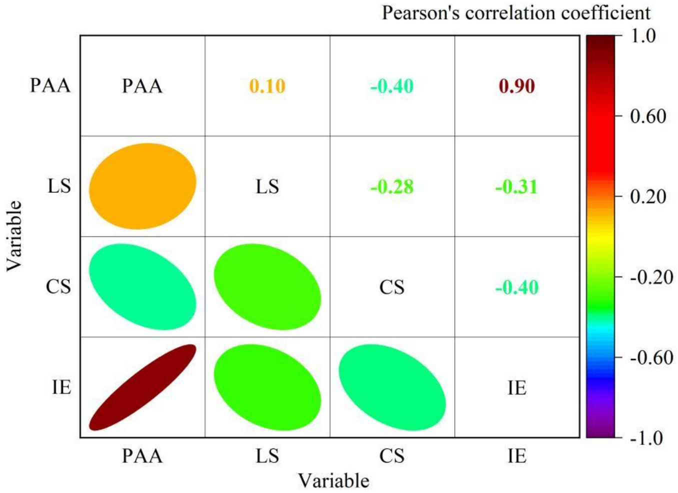
The data of the variable system of the experimental samples are summarized in Table 5, and the scores of the variables range from 49.82 to 65.41. Although the overall Chinese language proficiency acquisition is the best, the phenomena of linguistic shock and cultural shock still exist. In addition, the immersion environment variable not only has the lowest level (49.82), but also has a standard deviation as high as 24.17, indicating that there is a significant difference between the long-term immersion environment population and the non-immersion environment population within the sample.

Table 5: The variable system data of the experimental sample(N=700)

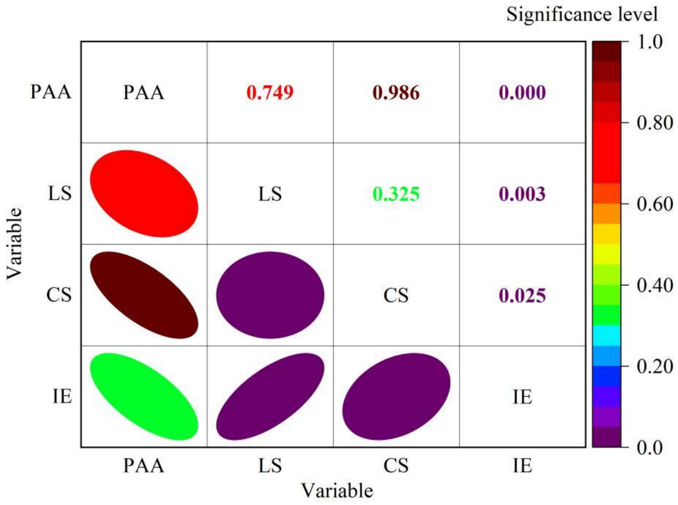
	Mean value	Standard deviation	N
Pragmatic ability acquisition	65.41	18.65	700
Language shock	52.78	15.58	700
Culture shock	53.64	16.94	700
Immersive environment	49.82	24.17	700

4.2.2 Linear correlation analysis of study variables

Linear Pearson correlation analyses of the dependent and independent variables are shown in Fig. 1(a)-(b) to explore the degree of correlation between the variables through the correlation coefficients. The correlations between the dependent variable, Chinese pragmatic acquisition (PAA), and the independent variables, cultural shock (LS), linguistic shock (CS), and immersion environment (IE), were 0.10, -0.40, and 0.90, respectively, with the variable, immersion environment (IE), having the strongest link with the role of Chinese pragmatic acquisition (PAA). In addition, there were statistically significant differences between the variables at the 1%, 5% and 10% levels respectively, with the immersion environment (IE) variable being the most significant (P=0.000) with the Chinese language proficiency acquisition (PAA) variable, indicating that the immersion environment is an important factor influencing the acquisition of Chinese language proficiency of international students coming to China. In addition, the independent variables did not show positive and significant correlations (<0.100) with each other, and the degree of similarity was low.



(a) Pearson's correlation coefficient



(b) Significance level

Figure 1: Pearson correlation analysis

4.2.3 Regression Analysis of Perceptions of Chinese Language Proficiency Acquisition

Based on the system of research variables and the research data, we constructed a multiple linear regression model (LRCPCA) for the acquisition of Chinese language proficiency by international students, and the output of the multiple linear regression results is shown in Table 6. The regression coefficient of linguistic shock is 0.623, which shows a certain degree of significance ($t=4.834, p=0.046<0.05$). The regression coefficient for cultural shock was 0.509, again showing some level of significance ($t=3.392, p=0.085<0.10$). The regression coefficient for immersion environment was 0.941, showing an extremely strong level of significance ($t=3.706, p=0.000$). On the whole, all three independent variables contribute to the regression equation to different degrees and are effective predictors, among which "immersion environment" contributes significantly to the regression equation, which can effectively predict the level of Chinese language acquisition by observing whether the foreign students are in a long-term immersion environment or not. This section also provides the multicollinearity tests of the independent variables, including the tolerance (0.882) and the variance inflation factor (1.134), the former being the inverse of the latter. There is no problem of multicollinearity among the three independent variables, and there is no overlapping of information, which is an important influence on the Chinese language acquisition ability of international students coming to China.

Table 6: Linear regression analysis of the LRCPCA model

LRCPCA		Constant (quantity)	Language shock	Culture shock	Immersive environment
Non-standardized coefficient	B	1.986	0.623	0.509	0.941
	Standard error	0.352	0.087	0.125	0.273
Standardization coefficient			0.541	0.397	0.725
t		2.693	4.834	3.392	3.706
Sig.			0.046	0.085	0.000
Collinearity statistics	Tolerance		0.882	0.882	0.882
	VIF		1.134	1.134	1.134

The further output of multiple regression predictor variables and residuals is shown in Fig. 2, which shows that most of the observations in the regression analysis are concentrated in the ellipse centered on the intersection of vertical and horizontal coordinates of 0 and bounded by the interval of (-2.5,2.5), which meets the assumptions of normal distribution of errors and irrelevance of errors and predictor variables, and that the predictor variables are significantly correlated with the dependent variables. The conclusion that "language shock, culture shock and immersion environment positively influence the acquisition of Chinese language proficiency of international students" in the above analysis is highly credible.

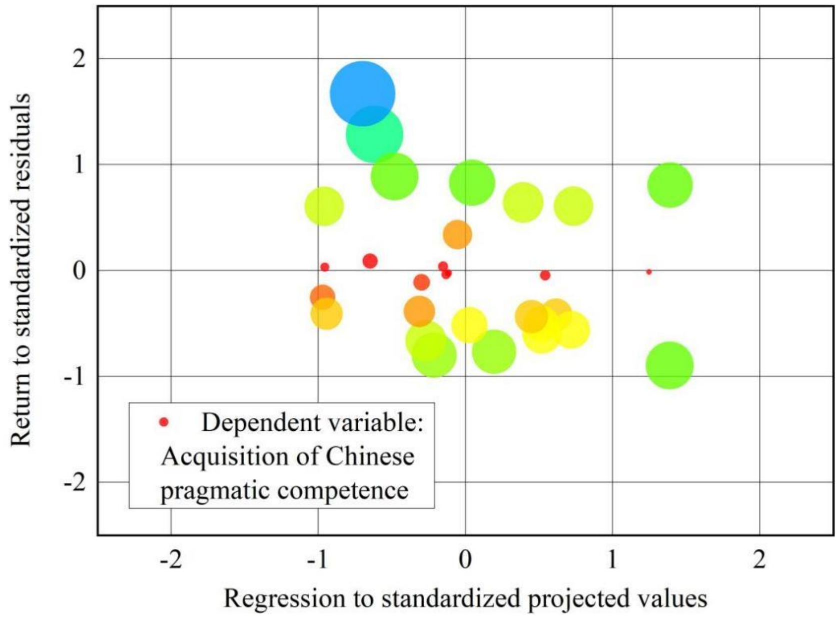


Figure 2: Predictor variables and residuals in multiple regression

5 Conclusion

This paper takes the degree of immersion in the Chinese language environment as the entry point, and raises the research questions related to the cognitive acquisition of Chinese language proficiency of international students coming to China. Through the two tests of Chinese semantic comprehension and word choice, it is found that international students who have been immersed in the Chinese language environment for a long time have better Chinese language acquisition ability, with an average correct rate of 71.31% for Chinese semantic comprehension and 60.94% for word choice. Accordingly, we set the perceived Chinese language proficiency of international students as the dependent variable, and language shock, culture shock and immersion environment as the independent variables. Based on the multiple linear regression analysis of the experimental sample data, the order of the factors affecting international students' perception of Chinese language proficiency is: immersion environment (0.941)>language shock (0.623)>cultural shock (0.509), and the immersion environment has the strongest effect (P=0.000). This not only responds to the research question of the cognitive influence of immersion environment on the acquisition of Chinese language proficiency of international students coming to China, but also reveals the positive influencing effect of long-term immersion environment, which guides a reliable reference direction for the improvement of Chinese language proficiency of international students coming to China.

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