Research on Intercultural Communication Among International Students in China Based on Anxiety and Uncertainty Management Theory

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Abstract: *Based on the Anxiety and Uncertainty Management (AUM) theory of Gudykunst. W. B., this paper investigates and analyzes the factors affecting the anxiety and uncertainty level of international students in cross-cultural communication, and discusses the countermeasures in communication, so as to study the application of Anxiety and Uncertainty Management theory in cross-cultural communication. The results show that the factors that have a influence on the anxiety and uncertainty of international students show a concentrated trend in general. This study summarizes the measures taken by international students when they deal with anxiety and uncertainty in cross-cultural communication, including learning Chinese culture, improving Chinese proficiency, and increasing contact with Chinese people.*

Keywords: Anxiety and Uncertainty Management Theory, International students in China, Intercultural communication, Influencing factor.

1. Introduction

Since the late 1970s, the Chinese government has vigorously advocated international academic and exchange, which has popularized foreign language education in China and led to an increasing number of international students in China. When foreign students enter a strange country and culture, they will lose their sense of familiarity with the original environment, resulting in loneliness, insecurity and anxiety. Too much tension and anxiety will cause students to have a negative attitude and affect the effectiveness of cross-cultural communication. The Anxiety and Uncertainty Management theory proposed by Gudykunst pointed out that people can achieve effective communication by managing anxiety and uncertainty generated during communication. Based on Gudykunst's theoretical research results on intercultural communication, this study explores the influencing factors of anxiety and uncertainty among international students in China and the measures taken to achieve effective communication goals, so as to provide references for intercultural communication studies of international students in China.

2. Review of Studies

In the 1950s, the study of intercultural communication began to rise in the United States. In 1959, the famous anthropologist and social psychologist Edward Hall (E.T.Hall) first put forward the academic concept of "Cross-cultural Communication" in his book *The Silent Language*. American scholar William B. Gudykunst drew on Simmel's concept of "Stranger", integrated Berger and Calabrese's Uncertainty Reduction Theory (URT) and Tajfel's Social Identity theory, and added anxiety to propose the Anxiety and Uncertainty Management theory (AUM). This theory played an important role in the field of intercultural communication. Many scholars have applied AUM theory to cross-cultural adaptation and communication studies. In 2001, Hullett and Witte established an Extended Parallel Process Model to help verify the validity of AUM theory. Witter (2002) explored how to achieve effective communication or acculturation in intercultural communication. In 2005, Duronto, Nishida, and

Nakayama focused on the synergistic effects of anxiety and uncertainty avoidance in interpersonal and cross-cultural communication. Zhang Weidong (2009) conducted a study on classroom teaching under the guidance of AUM theory. Xing Yue (2013) studied the application of AUM theory in cross-cultural communication. Lu Yanqiong (2022) explored the factors affecting international students' cross-cultural adaptation and made relevant suggestions for students and schools.

3. Research Design

3.1 Research Questions

The research questions of this study are as follows:

1) Which factors significantly affect the anxiety and uncertainty of international students in the process of communicating with Chinese?

2) What measures do they take to deal with the anxiety and uncertainty generated in their interactions with Chinese in order to achieve effective communication?

3.2 Research Method

This study adopted questionnaire survey to conduct investigation and research. By means of questionnaire, this study measured the degree of anxiety and uncertainty of the research subjects and knew which factors played a major role in affecting their anxiety and uncertainty. The open question in the questionnaire was used to collect the measures for coping with anxiety and uncertainty.

3.3 Research Subjects

In this study, international students from Southwest Petroleum University were selected as an example. The final sample size was as follows: 18 in Bangladesh, 2 in Liberia, 2 in Indonesia, 12 in Morocco, 1 in Iraq, 1 in Pakistan, 1 in Tajikistan, and 3 in Algeria, for a total of 40.

3.4 Questionnaire Design

The questionnaire included four parts: Background Information, Variables (including anxiety, uncertainty, and cultural proximity), Multiple Choice, and Open Question. The first part was the collection of background information of the research subjects, including their name, gender, age, major, country, the time they spent living in China, the time they spent learning Chinese, Chinese proficiency, and the number of friends in China. The second part was the measurement of variables, which includes the measurement of the anxiety, uncertainty and cultural proximity by the respondents in the process of cross-cultural communication in China. The third part was used to investigate the influencing factors. The open question was used to find out international students' experiences and countermeasures in actual communication according to their own situations.

3.5 Reliability and Validity Test of Questionnaire

This research collected the English version questionnaire data of 20 subjects for reliability and validity analysis. Cronbach's α coefficient was used as the reliability reference index to evaluate the consistency of scores of each item in the scale, which belonged to the internal consistency coefficient. The coefficient verification standard was: "The value above 0.8 is the best, and the value between 0.7-0.8 is acceptable." The results showed that the Cronbach's α coefficients of the total scale, anxiety, uncertainty and cultural proximity were 0.880, 0.898, 0.896 and 0.732. As shown in the Table 1. Cronbach's α coefficient of the dimensions of the overall scale and each subscale was greater than 0.7, indicating good reliability.

Table 1: The Reliability of Scales

	Cronbach's α	Cronbach's α if item deleted
Total Scale Reliability=0.880	α1=0.898	0.892
		0.876
		0.880
		0.885
		0.843
	α2=0.896	0.861
		0.877
		0.862
		0.871
		0.894
	α3=0.732	0.607
		0.737
		0.656
		0.723
		0.678

The reliability of anxiety degree of international students in China is called α1;
The reliability of uncertainty degree of international students in China is called α2;
The reliability of cultural proximity degree of international students in China is called α3;

This paper used KMO coefficient as a reference index of validity. KMO coefficient was used to compare simple correlation coefficient and partial correlation coefficient between variables, and its value ranged from 0 to 1. The closer the KMO was to 1, the stronger the correlation between variables, and the more suitable for factor analysis. The results showed that the KMO coefficients of the total scale, anxiety, uncertainty and cultural proximity were 0.753, 0.848,

0.792 and 0.721. As shown in the Table 2. The KMO coefficients of the overall scale and each subscale were greater than 0.7, indicating good validity. The P value corresponding to Bartlett sphericity test was 0.000, which was less than 0.05, so it was suitable for exploratory factor analysis.

Table 2: The Validity of Scales

	KMO
Total Scale KMO=0.753	KMO1=0.848
	KMO2=0.792
	KMO3=0.721

The validity of anxiety degree of international students in China is called KMO1;
The validity of uncertainty degree of international students in China is called KMO2;
The validity of cultural proximity degree of international students in China is called KMO3;

4. Results and Discussion

4.1 Questionnaire Collection

A total of 40 valid questionnaires were collected in this survey, including 23 from Asia, accounting for 57.5%, and 17 from Africa, accounting for 42.5%. Of these, 18 were from Bangladesh, 2 from Liberia, 2 from Indonesia, 12 from Morocco, 1 from Iraqia, 1 from Pakistan, 1 from Tajikistan and 3 from Algeria. They accounted for 45%, 5%, 5%, 30%, 2.5%, 2.5%, 2.5%, 7.5% of the total number of questionnaires collected respectively. The proportion of males and females was 47.5% and 52.5%, respectively. As shown in the following figures.
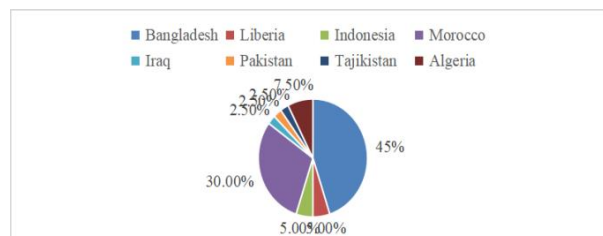

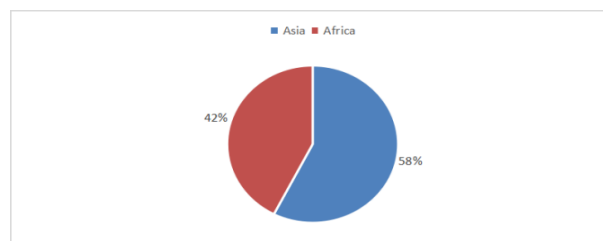**Figure 1:** Statistical Results of Research Subjects by Country

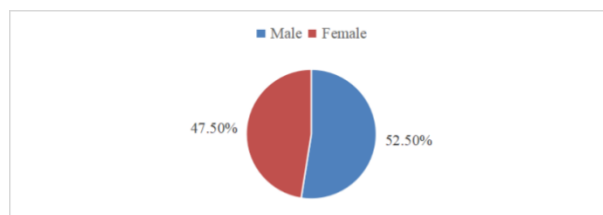**Figure 2:** Statistical Results of Research Subjects by State

Figure 3: Statistical Results of Research Subjects by Gender

4.2 Presentation of Measurement Results

4.2.1 Variable Analysis

The statistical results of the questionnaire were shown in the following Table 3.

Table 3: Descriptive Statistics of Anxiety and Uncertainty

State	Statistic type	Anxiety	Uncertainty
Asia	AVG	13.2714	13.6522
	SD	2.99934	3.88012
	MIN	5	6
	MAX	19	21
	SE	0.62541	0.80906
	N	23	23
Africa	AVG	14.1176	14.3529
	SD	3.10005	2.97786
	MIN	8	10
	MAX	20	21
	SE	0.75187	0.72224
	N	17	17
Total	AVG	13.60	13.95
	SD	3.03653	3.50055
	MIN	5	6
	MAX	20	21
	SE	0.48012	0.55349
	N	40	40

The degree of anxiety and uncertainty was different among countries. According to the questionnaire, the highest level of anxiety was international students in Algeria in Africa, followed by Morocco in Africa and Bangladesh in Asia. The highest degree of uncertainty was for international students living in Bangladesh in Asia and Morocco in Africa. The second was Algeria in Africa, and the lowest was Iraq in Africa.

The higher the score, the higher the degree of cultural proximity. The statistical results were shown in the Table 4.

Table 4: Descriptive Statistics of Cultural Proximity

State	N	MIN	MAX	AVG	SE	SD
Asia	23	10	16	13.0870	0.34385	1.64905
Africa	17	10	15	13.1176	0.35233	1.45269
Total	40	10	16	13.1	0.24495	1.54919

As shown in the table, the Asia respondents felt that the local culture is closer to the Chinese culture, and the Africa respondents felt that the local culture is the least close to the Chinese culture.

According to the several variables measured in the questionnaire, the correlation analysis among the variables was carried out. The results were shown in the Table 5.

Table 5: Correlation Data

Variables	Duration1	Duration2	Chinese	Friend	Anxiety	Uncertainty
Anxiety	-.812**	-.776**	-.781**	-.850**	1	.883**
Uncertainty	-.677**	-.780**	-.779**	-.830**	.883**	1

**. At level 0.01 (two-tailed), the correlation was significant.

*. At level 0.05 (two-tailed), the correlation was significant.

According to the correlation data, anxiety and uncertainty had no significant correlation with the gender, age, major, and cultural proximity of the respondents. Anxiety and uncertainty showed a relatively obvious correlation. ($\rho=0.883$, p=0.01). For most respondents, uncertainty scores were accompanied by anxiety scores. There was a significant negative correlation between anxiety and uncertainty and the number of Chinese friends. The more friends the respondents had in the country, the lower their anxiety and uncertainty in communication. Moreover, the correlation between anxiety and the number of friends in the country ($\rho=0.850$, p=0.01) was higher than that between uncertainty and the number of friends ($\rho=0.830$, p=0.01). Anxiety and uncertainty were negatively correlated with respondents' Chinese proficiency. The higher the Chinese level of the respondents, the lower their anxiety and uncertainty in communication. Moreover, the degree of correlation between Chinese proficiency and anxiety ($\rho=0.781$, p=0.01) was higher than that between uncertainty ($\rho=0.779$, p=0.01). Anxiety and uncertainty were negatively correlated with the length of time respondents have lived in China. The correlation between anxiety and length of residence ($\rho=0.812$, p=0.01) was more obvious than that of uncertainty ($\rho=0.677$, p=0.01). Anxiety and uncertainty were negatively correlated with the length of time that respondents have learned Chinese. With the increase of their learning time, anxiety and uncertainty in communication will decrease. Moreover, the correlation between uncertainty and length of Chinese learning ($\rho=0.780$, p=0.01) was more obvious than that of anxiety ($\rho=0.776$, p=0.01).

4.2.2 Statistics of Influencing Factors

The degree of the relationship between international students and Chinese students had the strongest influence on the uncertainty and anxiety of the respondents. Chinese proficiency had the strong influence on the uncertainty and anxiety of the respondents. Good contact with Chinese students also influenced their anxiety and uncertainty. Degree of Chinese people's understanding and recognition of my country's culture ranked fourth. The last four were: The degree of understanding of Chinese culture, shared knowledge or social networks (such as associations with students from both sides), similarities between my country's culture and Chinese culture, and Stereotypes about Chinese people formed before going abroad.

But the situation varied from country to country. The researcher used Bangladesh in Asia and Morocco in Africa as examples. In the sample group in Bangladesh, it could be seen that the relationship between international students and Chinese students was the most important factor affecting the uncertainty and anxiety generated by international students. Chinese proficiency was followed by good contact with Chinese students in intercultural communication. Similarities between my country's culture and Chinese culture ranked fourth. Degree of understanding of Chinese culture and shared knowledge or social networks (such as associations with students from both sides) were equally influential on the anxiety and uncertainty of the respondents. Degree of Chinese people's understanding and recognition of my country's culture ranked seventh. Lastly, it could be seen that the anxiety and uncertainty of Bangladesh students in cross-cultural communication were almost not affected by stereotypes about Chinese people formed before going abroad.

In the sample group in Morocco, it could be seen that the interviewed international students generally believed that the factor affecting their degree of anxiety and uncertainty in cross-cultural communication was the degree of Chinese

people's understanding and recognition of my country's culture, followed by the relationship between international students and Chinese students and Chinese proficiency. Degree of understanding of Chinese culture and shared knowledge or social networks (such as associations with students from both sides) equally influenced the anxiety and uncertainty of the respondents. Good contact with Chinese students, similarities between my country's culture and Chinese culture, and stereotypes about Chinese people formed before going abroad were the least likely factors to affect them.

4.3 Presentation of Open-ended Question

After statistical analysis, the researchers came to the conclusion that the measures taken by the surveyed international students to deal with the anxiety and uncertainty fell into the following three categories.

4.3.1 The First Measure: Learning Chinese Culture

In the valid questionnaires collected, the most common answer given by the respondents was to learn Chinese culture. Foreign students have different cultures and beliefs from Chinese people. Respondents said that in a new country and a new environment, strangeness always brings a certain level of nervousness and unease, and unfamiliar language and habits make them feel uncomfortable. When it came to deal with anxiety and uncertainty, they said they will maintain communication with their peers with an open mind and proactive learning attitude, understand social norms, seek common ground while shelving differences, and further understand Chinese culture, history and customs to promote their own understanding of cultural diversity.

Eg: Dealing with anxiety and uncertainty in interacting with others, especially across cultures, requires a combination of preparation and mindfulness. For me, countermeasures include delving into cultural norms and customs, practicing patience, and maintaining open communication. Over time, the adaptation effect kicks in, as repeated exposure reduces anxiety, making interactions more confident and effective.

4.3.2 The Second Measure: Improving Chinese Proficiency

Most respondents considered language barriers to be an important aspect affecting their cross-cultural communication. In daily communication, international students found that there are many differences in the ways and habits of expression between Chinese and their mother tongue. As a result, many students felt anxious about communicating in Chinese. In fact, the language level of most international students could basically meet the daily communication and exchange, but what bothered them was the Chinese expression. The respondents noted that they will continue to learn Chinese and try to correct their pronunciation and writing problems to further adapt to Chinese expressions.

Eg: The biggest problem between foreign students and Chinese is the language barrier. We are international students and we ourselves are weak in Chinese because Chinese is difficult for us.

4.3.3 The Third Measure: Increasing Contact with Chinese

Many respondents pointed out that communicating more with Chinese people helps them better understand Chinese language and culture. Through contacting with Chinese, they believed that Chinese are very warm and friendly and willing to help them solve problems. Even if they encountered communication difficulties, Chinese would patiently listen to their problems and understood their needs. Based on this, international students were more confident to talk with Chinese people and made more friends. With closer relationships, students' anxiety and uncertainty would decrease faster.

Eg: Actually Chinese people are very friendly. When I meet them, I can speak Chinese very well and they can understand. That's great. We can communicate with each other and become friends.

4.4 Discussion

In summary, anxiety and uncertainty were significantly negatively correlated with the number of Chinese friends, Chinese proficiency, the time spent learning Chinese, and the time spent living in China. There was a clear correlation between anxiety and uncertainty. The results showed that the relationship between international students and Chinese students, Chinese proficiency, good contact with Chinese people, shared knowledge or social networks, cultural proximity, and stereotypes formed before going abroad were the main influencing factors. But in different countries, these factors had different degrees of influence on students' feelings of anxiety and uncertainty. International students mainly reduced their anxiety and uncertainty by learning Chinese culture, improving Chinese proficiency and increasing contact with Chinese students.

5. Conclusion

Researcher had summarized the main factors that affected the level of anxiety and uncertainty in cross-cultural communication among international students studying in China, as well as the measures they took to cope with these anxieties and uncertainties in actual communication. Research data showed that the impact of various factors on the anxiety and uncertainty of respondents varied according to different countries. Future research could expand the sample size to enhance the persuasiveness and credibility of the paper. Meanwhile, the levels of anxiety and uncertainty were also influenced by other factors, such as, personality differences, upbringing background, and so on. The level of these influencing factors needed to be further explored in future research.

Acknowledgement

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