Research Article

Factors influencing cross-cultural adaptation among international students in china: an empirical investigation

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ABSTRACT

With the booming development of international education, China has become an important destination for many international students. However, facing a brand new cultural environment, the cross-cultural adaptation problem of international students has become more and more prominent. Through an empirical investigation, this study aims to reveal the key factors affecting their adaptation process. Through a questionnaire survey this paper collected data from international students in China. The results of the analysis show that factors such as level of interpersonal interaction, Chinese language proficiency, cultural distance, time spent in China, and satisfaction all have a significant impact on international students' cross-cultural adaptation. This study not only provides new perspectives for understanding the process of international students' intercultural adaptation, but also explores the characteristics of sociocultural adaptation of international students in Chinese cultural and educational contexts through known antecedent factors.
Keywords: cross-cultural; cultural adaptation; international students; international education

1. Introduction

With the promotion of China's international influence and the wide spread of Chinese culture in the world, more and more overseas students from all over the world come to China to study and feel Chinese culture. However, as "sojourners", the objective cultural differences and related institutional systems make international students in China face various adaptive challenges, and also make international students in China fall into various social divisions. Therefore, students studying in China are faced with not only learning problems, but also cross-cultural adaptability problems.

There are four main theories in cross-cultural studies. The main theory is Oberg's cultural shock model. According to this model, foreigners who have just experienced cultural shock will suffer from "occupational disease" [1]. The second theory is related to "culture fatigue"[2], which regards language shock and role shock in cross-cultural adaptation as alternative concepts of culture shock. This theory originated from social psychology and mainly regards cross-cultural adaptation as a learning process. In this learning process, cross-cultural communication is the core of cross-cultural adaptation[3]. Furnham and Bochner further focus

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on the behavioral level in cross-cultural communication, and regard social interaction as "a skilled and mutually organized performance"[4]. The third model regards sociocultural adaptation as a process of learning and recovering from the edge of a new culture to the center. Lysgaard's U-shaped curve shows that cross-cultural adaptation begins from the initial honeymoon period, that is, it experiences many new feelings brought by the new culture at the beginning. With immersion in this new culture, freshness recedes and adaptability declines, and then gradually returns to a higher level of cultural adaptation[5]. Gullahorn proposed the W-curve to describe the process of cultural infiltration in more detail. The fourth theoretical model regards cross-cultural adaptation as a process of decreasing tension until it reaches internal balance[6].

Although there have been a large number of cross-cultural studies in the West, scholars have not yet reached an agreement on the connotation of cross-cultural adaptation. This study mainly adopts Ward's[7] cultural adaptation model, which divides cross-cultural adaptation into two aspects: sociocultural adaptability (behavioral level) and psychological adaptability (emotional level). The former refers to the ability to integrate into a new culture, which enables international students to acquire cultural skills and interact well with the host country's environment. The latter refers to psychological well-being or satisfaction. Therefore, from the perspective of behavioral skills, sociocultural adaptation is more influenced by various factors that affect the acquisition of social skills[8], which are also the main focus of this paper.

Previous studies have shown that the factors affecting the process of social and cultural adaptation mainly include: the time of entering a new culture; Existing knowledge of the new culture; Identity of the host country; Number of interactions with the people of the host country; Cultural distance and the mode of cultural infiltration; Language and communication skills; Quantity and quality of contact with the people of the host country; Interpersonal network; Experience of living abroad; Whether to live permanently; Cross-cultural training. Among all these influencing factors, the most widely studied variables are nationality, language proficiency and existing cross-cultural experience.

With regard to nationality, previous studies have shown that the farther the cultural distance, the more difficult it is to adapt to society and culture, that is, cultural or ethnic similarity is positively related to better adaptation to society and culture. For example, Malaysian students in Singapore have a better cultural adaptation experience than Malaysian students in New Zealand. Similarly, Chinese students are more adaptable in Singapore than British and European students in Singapore[4]. Therefore, cultural distance has become an important variable in this study. Cultural distance is a measure of the differences between cultures, not only as a physical distance, but also as a psychological concept, reflecting the difficulty of adaptation when facing different cultures. It involves differences in several aspects, including religion, customs, values, language, etiquette, living habits, and social culture. In order to define this variable operationally, we introduce the concept of "Confucian cultural circle" [9]. The Confucian Cultural Circle is a cultural region composed of countries and regions that share the Confucian cultural tradition. The formation and development of this cultural circle is mainly based on the long-term and profound influence of Confucianism on these countries and regions. The Confucian cultural circle includes China, South Korea, Japan and other East Asian countries, all of which are deeply influenced by Confucian philosophy, such as emphasizing social relations and loyalty to family ethical relations. This cultural similarity may make it relatively easy for students from the Confucian Cultural Circle to communicate and understand each other, thus reducing the cultural distance to some extent and enabling them to better adapt to Chinese society and culture.

With regard to language proficiency, research shows that the language proficiency of international students is positively related to the amount of social interaction and the support they can get from the host country. Lower language proficiency may indicate higher cultural adaptation challenges[10]. There are also

many scholars who believe that language ability is crucial for achieving happiness and higher cross-cultural adaptation. Correspondingly, language barriers often prevent international students from interacting with their host counterparts[11] .

It takes time to acquire the cultural capital of the host country. The longer a student lives in the host country, the better his language and social skills will be, and the more help he will get from social networks and social support, so that he can feel more comfortable and relaxed in his daily life [12]. Social interaction with the people of the host country is the key variable affecting social and cultural adaptation. Bochner's interpersonal function model[13] explains the importance of social interaction. He believes that international students depend on different social relations according to different purposes, and maintaining good ties with the people of the host country is particularly effective for cultural learning. Berry's theory of cultural adaptation distinguishes different strategies of cultural adaptation. He believes that there are four kinds of adaptation strategies in the process of cross-cultural adaptation, namely integration, assimilation, separation and marginalization. At the same time, he believes that cross-cultural people with integrated adaptation strategies have better integration effect and are more conducive to quickly adapting to the new cultural environment [14]. Through research, Chen found that it is very important for cross-cultural people to adopt integrated bicultural identity for the psychological adjustment of individuals undergoing immigration and globalization adaptation, and further proposed that bilingual or trilingual ability of cross-cultural people is equally important for cross-cultural adaptation[15]. Some scholars believe that establishing a circle of friends and social circles in the local area is beneficial for cross-cultural people to adjust and adapt socially and culturally and successfully complete their studies[16]. Jaboc and others believe that foreign students should realize the problems of cultural adaptation in the learning process and make more friends in the local area[17]. Akinniyi's research found that international students regard university staff on their campuses as "distant" and "different", which greatly affects their schooling experience[18]. Gao and Gudykunst[19] found that the services provided by universities for international students can reduce their uncertainty and anxiety in the process of adaptation, thus helping international students better adapt to the new campus life. Therefore, this study will focus on how the social interaction between international students and Chinese nationals determines their sociocultural adaptation.

Besides social interaction, sociocultural adaptation is also related to psychological adaptation. On the one hand, the interaction between international students and the people of the host country is positively related to their satisfaction. On the other hand, the lack of social support has a significant negative impact on the psychological happiness of international students[20]. Mallinckrodt and Leong found that the quality of social support of international students has a direct impact on the psychological stress of international students and can buffer the psychological stress they encounter[21]. Therefore, this study also regards satisfaction as an important indicator of psychological adaptation of international students.

2. Materials and methods

2.1 Sampling

In this study, two universities in Shandong Province participated in the questionnaire survey, and the questionnaires were distributed to international students by e-mail or paper questionnaires from the international departments of each university. Shandong is a major education province in China. According to the data released by the Ministry of Education, Shandong currently has 153 universities, including 70 undergraduate universities and 83 professional universities, which are rich in educational resources. In 2011, the Shandong Provincial Government Scholarship for International Students was set up, with an annual allocation of 8 million yuan to support foreign students with good academic performance, as well as a series

of services and preferential policies. By 2020, there are 82 qualified institutions recruiting international students in Shandong Province, with 85,000 international students from more than 160 countries, which provides a rich basis for sampling and research.

2.2 Demographic Characteristics of the Sample

A total of 167 international students from 14 countries provided valid answers to this survey. Since the most widely studied variables among the influences on socio-cultural adaptation are nationality, language level, and existing intercultural experiences. Therefore, the region of nationality and the number of years of study of the international students surveyed were counted.The basic demographic information is shown in **Table 1**. Affected by the epidemic, the interviewed schools suspended the recruitment of international students for a period of time, so most of the overseas students who came to China as respondents came to China in the years before the epidemic.

Table 1. Basic Demographic Description of Samples

Percent(N=167)%		
Gender	Male	54.5%
	Female	45.5%
Age	<19	5.7%
	20-24	53.9%
	25-29	25.2%
	30-34	9.1%
	>34	6.2%
Region of nationality	East Asia	27%
	ASEAN and other Asian countries	28%
	Europe, North America and Latin America	0
	African and Oceania countries	45%
Years of study	≤ 1	34.3%
	3-4	52.7%
	5	12.9%

2.3 Measurement of Interpersonal Interaction and Sociocultural Adaptation

In terms of cross-cultural adaptation, international students have dual identities as students and foreign expatriates. This study focuses on the cross-cultural adaptation of international students as students in university campuses. In order to explore how international students' social interactions with Chinese natives determine their sociocultural adjustment, we divide the interpersonal communication of international students into three types based on the different objects of interactions: communication with classmates, communication with teachers and communication with school administrators.

The Sociocultural Adaptation Scale (SACS) is an assessment tool for testing sociocultural adaptation, which is widely used worldwide, mainly in cross-cultural research to help researchers understand how individuals adapt in different cultural environments. According to the internal structure of social culture mentioned in the literature review, and mainly referring to Ward and Kennedy's Social and Cultural Adaptation Scale, this study uses a 28-item Social and Cultural Adaptation Questionnaire (Cronbach's Alpha = 0.94) [22]. The questions in the project were not only limited to social situations, but also included diet,

climate, and other adaptations in the Adaptation Scale required respondents to use a five-point scale to indicate the degree of difficulty they encountered in a number of domains, which were: "very difficult," "difficult," "not necessarily," "not difficult," and "very difficult," with five responses scored as 5, 4, 3, 2, and 1, respectively, "not necessarily", 'not difficult', 'not difficult', 'very not difficult' five kinds of responses, respectively, recorded as 5, 4, 3, 2, 1 points, through the scores more clearly show the attitude of the respondents The scores show the respondents' attitudes more clearly. The selected socio-cultural adaptation questions are shown in **Table 2**.

Table 2. Social Adaptation Question Items

Number	Title
1	Making friends
2	Using the public transportation system
3	Getting used to local food, finding your favorite food
4	Finding the way
5	Look at culture from the perspective of Chinese people
6	Dealing with unsatisfactory service
7	Making yourself understood
8	Understand Chinese values
9	Understanding Jokes and Humor
10	Look at things from the Chinese perspective
11	Being able to shop
12	Can cope with academic work
13	Participate in social events, parties, celebrations
14	You can face people who are staring at me
15	Communicate with people from different countries
16	Understanding Cultural Differences
17	Getting Along with Teachers
18	Getting along with administrators
19	Discuss yourself with others
20	Adapt to the local climate
21	Adapting to the Dormitory Environment
22	See the culture from a Chinese perspective
23	Get used to the rhythm of life in China
24	Use public toilets
25	Get used to the service of Chinese banks and restaurants
26	Understand local accents and dialects
27	Adapt to local etiquette and order
28	Getting used to China's population density

3. Results and discussion

3.1 Analysis of Sociocultural Adaptation

Factor analysis was made on 28 items, and three main factors were obtained. AMOS is used to test the data structure model, and the model fit value (Model Fit Summary) is qualified, as shown in **Table 3** and **Table 4**.

Table 3. Factor Analysis Results of Social and Cultural Adaptation Items

	Factor 1 Cronbach's Alpha = 0.82	Factor 2 Cronbach's Alpha = 0.80	Factor 3 Cronbach's Alpha = 0.79
15. Communicate with people from different countries	0.823		
16. Understanding Cultural Differences	0.753		
13. Participate in social events, parties, celebrations	0.708		
19. Discuss yourself with others	0.699		
14. You can face people who are staring at me	0.630		
23. Get used to the rhythm of life in China	0.589		
24. Use public toilets		0.747	
26. Understand local accents and dialects		0.683	
27. Adapt to local etiquette and order		0.670	
25. Get used to the service of Chinese banks and restaurants		0.651	
28. Getting used to China's population density		0.635	
20. Adapt to the local climate		0.569	
5. Look at culture from the perspective of Chinese people			0.778
10. Look at things from the Chinese perspective			0.75
8. Understand Chinese values			0.746

Note: Extraction method: Principal component analysis; Rotation method: maximum variance and Kaiser normalization; Rotational fusion for 5 iterations; Only report load factor > 0.5.

Table 4. Model Fitting Values

	Chi-square/df	GFI	RMR	RMSEA	FI	FI	FI	IFI
Results	381.069/86	.971	.025	.045	.970	.953	.961	.970

Factor analysis shows that all items in the first factor have strong load (> 0.58), and the reliability test result of these six items is 0.82. Factor 1 includes: communicating with people from different countries; Participate in social activities/parties/celebrations; Discuss yourself with others; I can face those who are staring at me. These items are all dealing with interpersonal problems in life, so they are named "communicative adaptation". Generally speaking, the communicative adaptation of international students reflects their communicative competence in a specific cultural context, and also reflects the social support obtained by international students in a new cultural context. At the same time, social communication is also a good cross-cultural contact. Research shows that the more cross-cultural contact and the higher satisfaction with contact, the less cultural dilemmas they encounter. Therefore, foreign students' social communication adaptation can well reflect their social and cultural adaptation in China.

The second factor also includes six items, all of which have high load values (> 0.56), which we named "adaptation to living environment". We can also further divide it into physical living environment (such as using public toilets, getting used to Chinese banks, restaurants and other services, adapting to local climate) and cultural living environment (such as understanding local accent/dialect, adapting to local etiquette and order, and getting used to Chinese population density). According to Oberg[1], culture shock is a sense of tension caused by being out of touch with the environment. He likened the sojourner's life into a new or

greatly changed environment to the life of fish out of water[1] . It can be seen that the adaptation to the living environment is an important part of social and cultural adaptation.

The third factor contains three items (load value > 0.74), all of which point to international students' cognition of Chinese culture, that is, obtaining Chinese people's perspective of observing things, Chinese people's values, etc. We name it "cultural cognitive adaptation". Cultural cognitive adaptation is a very important factor in social and cultural adaptation. According to Markus, in order to maintain a good and harmonious interpersonal relationship in cross-cultural communication, foreign students need to have a full understanding of others[1]. That is to say, for overseas students in China, whether they can understand how Chinese people feel and think and how to deal with problems like Chinese people is an important aspect that affects their social and cultural adaptability.

3.2 Other Analysis Based on Level of Sociocultural Adaptation

Taking the degree of social and cultural adaptation as the dependent variable, we carried out multiple linear regression. The regression results show that the regression coefficients of interaction with students, teachers, administrators, Chinese proficiency and cultural distance have all passed the significance test, as shown in **Table 5**.

Table 5. Multiple Linear Regression Results of Social and Cultural Adaptation

	Dependent variable (total)	Factor 1	Factor 2	Factor 3
	Social and cultural adaptation	Communicative adaptation	Environmental adaptation	Cultural cognitive adaptation
Interaction with classmates	0.157***(0.029)	0.256***(0.02)		
Interaction with teachers	0.127***(0.032)			0.176***(0.032)
Interaction with executives	0.136***(0.03)		0.124***(0.031)	0.115***(0.03)
Chinese proficiency	0.066**(0.031)		0.097**(0.031)	
Years of study	0.083**(0.028)		0.08***(0.028)	
Cultural distance	0.105***(0.028)	0.239**(0.027)		
R value	0.134	0.108	0.047	0.071

*Note: Standard error in brackets. The sample number is 167. Only significant differences were reported. * Is P < 0.1; * * is P < 0.05; *** is P < 0.01.*

3.2.1 Level of Interpersonal Interaction

Interpersonal interaction plays a crucial role in the social field, and related research can help to understand how the respondents adapt to new environments and better achieve the purpose of communication, as well as help to establish closer ties and promote the dissemination and popularization of scientific knowledge and scientific culture. One of the main hypotheses of this study is that the level of interaction between international students and the host people is positively correlated with sociocultural adaptation. The regression results support this hypothesis: Among all independent variables, the level of interpersonal interaction has the greatest influence on the degree of sociocultural adaptation. Moreover, among the three types of interpersonal interactions, the interaction with students is the most important (standardized regression coefficient = 0.157), the interaction with administrators is the second (standardized regression coefficient = 0.136), and the interaction with teachers is the least (standardized regression coefficient = 0.127). In addition, the factors of interpersonal interaction are far greater than the variables such as Chinese proficiency, study years and cultural distance. It can be seen that in the campus environment, the

exchange and interaction between international students and the people of the host country has the best predictive effect on their cultural adaptation; At the same time, in interpersonal interaction, actively promoting the communication between international students and Chinese native students is the key to help international students experience good social and cultural adaptation.

Specifically, the regression results show that in terms of communicative adaptation (factor 1), communication with students is the best way for international students to adapt to cultural differences (standardized regression coefficient = 0.157). For environmental adaptability (factor 2), administrative staff help the most (standardized regression coefficient = 0.147), and international students who interact well with administrative staff can better adapt to the local environment and enjoy local services (such as using banks, etc.). In the aspect of cultural cognitive adaptation (factor 3), teachers' support is the most important influence index (standardized regression coefficient = 0.176). The more foreign students interact with teachers, the better they adapt to Chinese culture. This kind of interaction includes both classroom teaching and teacher-student interaction after class. For example, the Chinese thinking revealed by teachers in teaching will greatly affect the cultural cognition of international students, and can help international students think in the Chinese way of thinking or perspective, thus helping them better adapt to the Chinese cultural value system.

3.2.2 Chinese Proficiency and Time in China

Knowledge of the local language and the duration of adaptation to the local environment have an important impact on social adaptation. Language is the most important communication tool for human beings, and through the application of language, we can communicate and interact with people better and establish good interpersonal relations, and living in the local area can better help residents adapt to the climatic environment, living habits, eating habits and cultural connotations, and promote social and cultural adaptation. Hypothesis 2 and Hypothesis 3 are that the higher the Chinese proficiency or the longer they stay in China, the fewer cultural adaptation problems they encounter in China. This study partially supports these two hypotheses. When we divide cultural adaptation into three factors, Chinese proficiency and time spent in China only have significant correlation with environmental adaptation.

This result shows that students with high Chinese proficiency or living in China for a long time can better adapt to the local environment, such as eating and enjoying bank services, better understanding of local languages or dialects, and better adapting to local customs and etiquette. However, high-quality interpersonal communication and deep understanding of Chinese culture have no significant relationship with Chinese proficiency and length of residence in China.Therefore, it can be seen that the language level does not absolutely affect the cultural adaptability of international students.

3.2.3 Cultural Distance

Cultural distance measures the relationship between countries in culture, economy, geography, colonial history and so on, which has a great influence on the distribution of market share of studying abroad[23]. According to the distance of culture, this study divides the countries of origin of international students into three categories: the first category is East Asian countries, mainly including South Korea and Japan, which are deeply influenced by Confucian culture; The second category is ASEAN and other Asian countries; The third category is Europe and North America, Latin America, Africa and Oceania. According to the related data analysis of cultural distance and Chinese proficiency, the farther the cultural distance, the lower the Chinese proficiency of foreign students. According to the above classification of source countries, the average value of the first category of countries is 3.05, the average value of the second category of countries is 2.82, and the average value of the third category of countries is 2.22. However, when considering the

relationship between cultural distance and sociocultural adaptation, we find that there is a positive correlation between cultural distance and sociocultural adaptation, that is, the farther the cultural distance is, the better its adaptability is. That is to say, among the three countries, Korean and Japanese students who are closest to Chinese culture have the worst social and cultural adaptation, while European and American students who are farthest from Chinese culture have the best social and cultural adaptation.

The important reason for this result may be the personality differences between students from Asian countries and students from Western countries. On the whole, influenced by Confucian culture, students from China, South Korea, Japan and Vietnam are more introverted in unfamiliar environments; Those who come from Western countries are mostly influenced by Western individualism, and are more extroverted to foreigners and more willing to accept new challenges. Many empirical studies have also proved that it is relatively easy and relaxed for western students to deal with stress or other negative emotions in the process of studying abroad. The research of Ward and Masgoret [24] also shows that Asian students pay more attention to high-quality education than students in Europe, South America, North America and Australia, and they are less satisfied with learning experience, and deal with more problems related to academic difficulties and intellectual challenges.

In addition, Korean students and Japanese students have a lot in common-"circle culture". They interact more with their own students or friends, while ignoring the opportunities of communication with students from their host countries, so they can't adapt well to the social culture in China. For example, Korean students gain a sense of belonging by maintaining close relations with student groups in their own countries and have become a serious obstacle to their interaction with the people of the host country. Similarly, some scholars[25] have studied Japanese people in the United States, which shows that Japanese people adhere to the Japanese lifestyle when living in the United States and retain the characteristics of Japanese culture to a great extent. Japanese people attach great importance to collectivism and tend to have low self-evaluation, which has become the main obstacle to their adaptation to foreign society and culture.

Another reason for the greater cultural distance and better cultural adaptation may be that with the acceleration of China's internationalization, more and more Chinese people have mastered English as a global language. For foreign students from English-speaking western countries, it is not difficult for them to live in China even if they only know a little Chinese. Moreover, more and more Chinese universities begin to offer college English courses, and language is no longer an important obstacle to social and cultural adaptation.

3.2.4 Satisfaction

There is a positive correlation between the social and cultural adaptability of international students and their overall satisfaction. We further divide satisfaction into enrollment satisfaction, learning satisfaction, living satisfaction and campus support satisfaction. Correlation analysis found that the four sub-satisfaction levels were positively correlated with social, environmental and cognitive cultural adaptation (see **Table 6**).

However, the satisfaction of campus support is the most influential factor on social and cultural adaptation among all sub-satisfaction. This conclusion supports Mallinckrodt and Leong's finding that the quality of social support system not only has a direct effect on international students' psychological stress management, but also can buffer their psychological stress[21]. Therefore, the campus support system provided by the school can greatly improve the psychological well-being of international students, and thus actively promote the cultural adaptability of international students in China. However, because psychological adaptation is not the main goal of this study, some psychological variables have not been considered in detail. For example, the motivation of studying abroad has a great influence on the psychological well-being of

international students. In future research, the variables affecting psychological adaptation will be studied in more detail.

Table 6. Correlation Analysis between Social and Cultural Adaptation Factors and Satisfaction

	Enrollment satisfaction	Learning satisfaction	Residential satisfaction	Campus support satisfaction	Overall satisfaction
Social adaptation	0.061**	0.091***	0.152***	0.154***	0.085***
Environmental adaptation	0.154***	0.177***	0.190***	0.222***	0.119***
Cultural cognitive adaptation	0.143***	0.147***	0.197***	0.216***	0.108***

*Note: * is P < 0.1; * * is P < 0.05; *** is P < 0.01.*

3. Conclusion

The continuous development and wide spread of Chinese culture attracts more and more overseas students. The cross-cultural adaptation of international students coming to China is an important and complicated process, which not only affects their personal development, but also influences the depth and breadth of Chinese-foreign cultural exchanges. In this process, international students need to make a lot of efforts to adapt to different social environments and cultural habits from their own countries.

This study mainly adopts Ward's model of cultural adaptation[22]. The model divides cross-cultural adaptation into two aspects: sociocultural adaptation (behavioral level) and psychological adaptation (emotional level). The results of this study demonstrate that the theory of acculturation developed in the Western context can also be applied to international students coming to China, and can help to explore the characteristics of international students in terms of sociocultural adaptation. From the previous analysis, it can be seen that the social and cultural adaptation of foreign students in China is largely influenced by interpersonal interaction. This finding is consistent with the empirical research results in the western context. However, the characteristic of this study is that it divides sociocultural adaptation into three categories (communicative, environmental and cultural cognitive), and distinguishes the three main types of interpersonal interaction (student-student interaction, student-teacher interaction and interaction with administrators) that take place on campus.

Some studies have found that international students perceive the student teachers and other school personnel on campus as more distant, and this unfamiliarity greatly affects their ability to adapt to the school, on the contrary, if the university provides services for the international students, it can better bring the distance between them and the international students, and help them to reduce the anxiety arising from the process of adapting to the school, and help them to adapt to the school quickly[26]. international student life. Therefore, this study focuses on how international students' social interactions with Chinese nationals determine their sociocultural adjustment. It is found that the interaction with students is most helpful for international students to acquire communication skills, the interaction with teachers is most helpful for international students to internalize Chinese culture and values, and the interaction with administrators can help them better adapt to the Chinese environment to a great extent. However, the current research has not studied the frequency and quantity of interpersonal interaction of foreign students, and these variables will be considered in future research.

Research suggests that the language proficiency of international students greatly influences the communicative interactions of international students with the host country, and that lower levels of language proficiency may predict higher acculturation challenges[15,7]. Spending more time in the host country

facilitates social and cultural adjustment and acculturation for cross-culturalizers. The results of the study proved this theory, but this study categorized social adaptation into three factors for analysis, and Chinese language proficiency and time in China were significantly correlated with only one of them, environmental adaptation, and not with communicative adaptation and cultural cognitive adaptation. This result suggests that students with high Chinese language proficiency or longer residence time in China are better able to adapt to the local environment, however, these two are not the main factors affecting international students' cultural adaptation. Currently, the field of technology is developing extremely fast, and artificial intelligence and translation tools help international students to communicate with people better and improve their communicative adaptability. At the same time, even with a high level of language proficiency, international students may still have difficulties in understanding local cultural habits and social etiquette due to the large cultural differences in different regions.

In addition, previous studies have shown that the further the cultural distance, the more difficult the sociocultural adaptation, i.e., cultural or racial similarity is positively correlated with better sociocultural adaptation[7].Countries that are culturally close to China, because of similar cultures and closer cultural exchanges and dissemination, are easier to communicate and understand relative to other more distant countries, and to a some extent, they can better adapt to the Chinese society and culture. However, this study finds that the relationship between the cultural distance between the country of origin and China and its sociocultural adaptation of international students coming to China is just opposite to that of similar studies in western context. That is to say, the farther away the culture and geopolitics of the country of origin of international students from China, the more they can adapt to Chinese social culture. There are many reasons for this special phenomenon. For example, students from countries deeply influenced by Confucian culture are more introverted, and they often rely too much on friendship groups in their countries of origin and neglect the interactive communication with the people of the host country. Even though these students have more advantages in mastering Chinese and understanding Chinese culture, the idea of holding a group and the closed social circle of native people make it particularly difficult for them to adapt to the culture. Therefore, special attention should be paid to taking relevant measures (such as counseling and psychological services) to improve the social and cultural adaptability of these students.

Author contributions

Acknowledgments

Conflict of interest

The authors declare no conflict of interest.

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