

Predictors of Cross-Cultural Adaptation among International Students in Jiangxi, China: The Moderating Role of Cultural Contact Frequency

Wang Qi ^{1*}, Mohd Shukri Ab Yajid², Jacqueline Tham³

¹ Post Graduate Centre, Management and Science University, University Drive, Off Persiaran Olahraga, Section 13, 40100, Selangor, Malaysia. Email : 35703384@qq.com

Jiangxi University of Finance and Economics, No.169 Shuang Gang East Road, Nanchang city, P.R.China.

²Post Graduate Centre, Management and Science University, University Drive, Off Persiaran Olahraga, Section 13, 40100, Selangor, Malaysia.

³ Post Graduate Centre, Management and Science University, University Drive, Off Persiaran Olahraga, Section 13, 40100, Selangor, Malaysia. Email : jacqueline@msu.edu.my

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ABSTRACT:

With the continuous advancement of educational globalization, the issue of international students' cross-cultural adaptation in foreign environments has become a key topic in higher education research. This study takes international students in universities across Jiangxi Province as its focus and, based on cross-cultural adaptation theory, develops a structural equation model incorporating social support (SS), cultural distance (CD), learning motivation (LM), and cross-cultural contact frequency (CCF). Data were collected through a questionnaire survey, and the model was empirically tested using partial least squares structural equation modeling (PLS-SEM) combined with Bootstrapping.

The results show that social support has a significant positive effect on cross-cultural adaptation ($\beta=0.267, P=0.001$), highlighting its role as an essential resource for international students in coping with environmental stress. At the same time, perceived cultural distance also demonstrates a significant positive effect ($\beta=0.296, P<0.001$), suggesting that greater cultural differences may, under certain circumstances, be transformed into a driving force for exploration and adaptation. In contrast, the direct effect of learning motivation was not statistically significant ($\beta=0.058, P=0.377$). Regarding moderating effects, cross-cultural contact frequency plays a crucial catalytic role in the relationship between learning motivation and cross-cultural adaptation ($\beta=0.268, P=0.002$). When international students engage frequently with the host culture, learning motivation can be more effectively translated into adaptive outcomes; however, when such contact is limited, this effect is difficult to realize. By contrast, the moderating effects of cross-cultural contact frequency on the paths of social support ($P=0.495$) and cultural distance ($P=0.603$) were not significant, indicating the relative stability of these influences. Based on these findings, the study proposes management recommendations, emphasizing that universities should establish diverse platforms for social practice to foster

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positive interaction between international students and the local community, thereby activating their inherent adaptive potential.

Keywords: Cross-Cultural Adaptation, Cultural Contact Frequency, Social Support, Cultural Distance, Learning Motivation

1. Introduction

Research context

In the context of accelerating educational globalization, transnational student mobility has emerged as a core catalyst for transforming higher education and fostering cultural exchange. According to UNESCO data, the number of international students worldwide surged from 2.5 million in 2000 to over 5 million by 2020 (Deardorff et al., 2023). Leveraging its robust educational resources and growing international influence, China has become the world's second-largest host country for international students, with the total enrollment approaching 500,000 by 2021 (Shen, 2024).

With its profound cultural heritage and increasingly sophisticated academic systems, represented by institutions such as Nanchang University and Jiangxi University of Finance and Economics, Jiangxi Province has attracted a substantial number of international students from Asia, Africa, and Europe (Wang et al., 2021). Unlike highly internationalized metropolises such as Beijing and Shanghai, Jiangxi's social environment is relatively conservative and traditional, presenting unique adaptation pressures for international students (Huang, 2024). Research indicates that approximately 70% of international students encounter severe adaptation difficulties within their first six months, involving language barriers, discrepancies in pedagogical models, and cultural identity crises (Sun et al., 2024).

Cross cultural adaptation is a complex process encompassing psychological, social, and behavioral adjustments. The primary obstacles faced by international students in Jiangxi include language communication challenges (Gao & Hua, 2021). Furthermore, the collision between China's typical collectivist culture and Western individualistic values often leads to feelings of

isolation and psychological stress among students (Mattison Thompson & Brouthers, 2021). While social support provided by educational institutions can significantly alleviate such stress (Veerasamy & Ammigan, 2022), the systematic support frameworks for international students in Jiangxi are still in a developmental stage, directly impacting their learning motivation and academic performance (Xue, 2024; Zeng et al., 2025).

Previous research has predominantly focused on first-tier cities, largely overlooking samples with the distinct regional characteristics of Central China, such as Jiangxi. Few studies have explored the mediating mechanism of psychological adaptation between socio-environmental factors and final adaptation outcomes. Moreover, there is a lack of empirical analysis regarding how the frequency of cultural contact (CCF) moderates this adaptation process (Ning et al., 2023).

Based on these gaps, this study aims to explore the key mechanisms influencing the cross-cultural adaptation of international students in Jiangxi. The researchers will analyze how social support, cultural distance, and learning motivation influence final adaptation outcomes through the mediating role of psychological adaptation. Simultaneously, this study will focus on the moderating effect of cultural contact frequency. The findings are intended to provide an empirical basis for universities in Jiangxi to formulate more precise support policies and enhance the quality of higher education internationalization (Ding & Lin, 2024; Tang et al., 2024).

Definition of Social Support(SS)

The concept of social support (SS) first emerged in the mid-20th century, with the main idea being that good social relationships can help people relieve stress (Casino García et al., 2024). For international students, their support systems are rather unique. Besides support from their

families, they also heavily rely on administrative assistance and cultural guidance provided by the international student office at their schools, as well as emotional support formed among peers due to similar experiences (Baghoori et al., 2024; Pointon-Haas et al., 2024). Unlike the general population who mainly depend on local communities, the social support for international students focuses more on targeted services such as language tutoring and cross-cultural exchange activities, to help them better cope with the special challenges they encounter in their overseas study and life (Mittelmeier et al., 2024).

Definition of Cultural Distance (CD)

Cultural distance is used to measure the differences in values, behavioral norms, and communication styles between different regions or groups, and is often quantified through dimensions such as power distance and individualism versus collectivism proposed by Hofstede (Gorodnichenko et al., 2024; Lin & Lou, 2024). Although significant cultural differences can sometimes cause international students to feel stressed or less willing to socialize when confronted with different values, exposure to diverse cultures also offers us great opportunities to broaden our horizons and enhance our cultural adaptability (Yu et al., 2024).

Definition of Learning Motivation (LM)

Learning motivation can be classified into intrinsic motivation driven by interest, extrinsic motivation driven by reward, and achievement motivation for pursuing excellence (Zheng et al., 2023; Morris et al., 2022). High motivation can prompt international students to actively participate in cross-cultural interaction, thereby significantly enhancing their cross-cultural adaptability (Kotera et al., 2023). However, setbacks and cultural barriers during the adaptation process may weaken students' learning enthusiasm and form negative feedback of decreased motivation (Setti et al., 2022).

Definition of Cultural Contact Frequency (CCF)

The frequency of cross-cultural contact refers to the extent and quality of an individual's

interaction with people from other cultural backgrounds (Chokor, 2024). According to Allport's "contact hypothesis", frequent and in-depth cultural exchanges can effectively reduce prejudice and enhance an individual's cultural adaptability and mental health (Elrayah & Alzahrani, 2024). Although language differences sometimes affect the depth of communication, high-frequency cultural contact can help us more accurately understand social signals and behavioral norms in different cultures, thus facilitating a smoother cultural transition in diverse environments (Lu, 2025; Farida et al., 2024).

Definition of Cross Cultural Adaptation (CCA)

Cross-cultural adaptation is a dynamic process in which individuals achieve emotional, cognitive and behavioral adjustment in a new cultural environment, covering multiple stages from initial culture shock to eventual integration (Banai, 2022; Kim, 2017). A strong social support network and an open personality trait are key to successful adaptation (Almukdad & Karadag, 2024; Bonanno et al., 2024). Effective cross-cultural communication not only bridges cultural gaps but also prompts individuals to shift from superficial behavioral imitation to deep value identification, ultimately enabling them to transform from "survival" to "prosperity" in a foreign environment (Farida et al., 2024; Vallis et al., 2024).

Social Support(SS) and Cross Cultural Adaptation (CCA)

Social support is widely recognized as having a positive impact on the cross-cultural adaptation of international students. It helps them reduce stress and anxiety when facing language barriers and different social norms by providing emotional comfort and practical information guidance (Zhu et al., 2024). Research also shows that support from local friends and other international students is particularly important, effectively improving the psychological state of international students, enabling them to maintain emotional stability in a culturally diverse environment and thus better adapt to their new

lives (English et al., 2021; Zheng & Ishii, 2023). Besides psychological assistance, social support can also enhance learning and social skills, allowing international students to adapt to the new environment more quickly. Strong family support and peer interaction are often associated with better academic performance and a smoother integration process (Sinaga et al., 2024). Additionally, the effectiveness of social support is related to cultural background. In cultures that emphasize collective harmony, it plays a particularly crucial role in alleviating loneliness, helping to adjust behavior, and promoting overall integration (Pourmand et al., 2021).

Cultural Distance (CD) and Cross Cultural Adaptation (CCA)

Cultural distance has a significant negative impact on multiple aspects of cross-cultural adaptation. When an individual perceives a large cultural gap, they are more likely to encounter social barriers and psychological stress, a situation that is particularly prominent among female international students and can directly affect their academic performance and life satisfaction (English et al., 2021). A large cultural gap not only makes communication more difficult but also tends to cause anxiety and reduce happiness, thereby hindering their integration into the new environment.

In terms of social interaction, cultural distance is also regarded as a major challenge in building interpersonal relationships. Research has shown that international students who perceive a significant cultural difference encounter more difficulties in making friends and expanding their social circle in the local area, and this sense of loneliness often accompanies poor adaptation and a decline in academic performance (Bethel et al., 2020). The maladjustment caused by different values and behavioral habits can also lead to misunderstandings or poor information transmission when trying to understand others' intentions, thus increasing the difficulty of cross-cultural adaptation (Kim et al., 2020).

Overall, the greater the cultural distance, the more challenging the process of cross-cultural transition tends to be. Whether in study or work,

a large cultural difference may result in the loss of knowledge transmission, difficulties in cooperation, and resistance to the new environment (Zhang et al., 2020; Chand et al., 2023). These research findings suggest that in supporting international students' adaptation, effectively identifying and narrowing the gap in cultural cognition and reducing the negative impact of cultural barriers are essential for achieving smooth cross-cultural adaptation.

Learning Motivation (LM) and Cross Cultural Adaptation (CCA)

Learning motivation is regarded as a key driving factor influencing an individual's cross-cultural adaptation process. Numerous studies have shown that students with higher levels of learning motivation typically exhibit greater initiative, can adapt more effectively to overseas educational systems, and make better progress during the academic transition period (Tong et al., 2020). Through systematic intervention measures, such as motivational interviewing, educators can specifically enhance students' learning motivation in particular cultural contexts, thereby promoting their positive development in behavioral adjustment and psychological resilience (Rimal et al., 2021).

In the cross-cultural adaptation process, learning motivation is usually composed of intrinsic interest and extrinsic incentives. Intrinsic interest is manifested as a natural curiosity towards the target culture or language, while extrinsic incentives may include academic achievements, career development, and other realistic goals. The combination of these two forms of motivation helps individuals maintain the motivation to participate continuously when facing cultural differences. Additionally, interacting with individuals from different cultural backgrounds, such as communicating with foreign teachers or international classmates, can effectively stimulate students' willingness to participate in cross-cultural learning, thereby increasing their engagement in cross-cultural contexts (Karimullah et al., 2021).

As motivation levels increase, students are often more willing to invest in language learning,

expand their social networks, and gradually deepen their understanding of local cultural norms and aesthetic orientations. This process from motivation stimulation to deep participation not only facilitates short-term cultural adaptation but also lays an important foundation for individuals to achieve long-term and stable cross-cultural development in academic or professional environments in the future (King et al., 2022; Guo et al., 2021).

The Moderate Role of CCF

Cross-cultural contact frequency (CCF) demonstrates a significant enhancing effect on the influence of social support on the adaptation outcomes of international students. Research indicates that frequent participation in cross-cultural exchange activities can function as a kind of "catalyst", making the social support from the local community and peer groups produce more obvious effects, thereby promoting the improvement of international students' psychological adaptation and life satisfaction (English et al., 2021; Bethel et al., 2020). When international students maintain a high frequency of communication with locals through social media or face-to-face interactions, the role of social support in helping them cope with social, academic, and psychological adaptation is further strengthened (Mengchen & Kamarudin, 2023; Gaitán-Aguilar et al., 2022).

Furthermore, cross-cultural contact frequency plays an important role in alleviating the adaptation challenges brought about by cultural differences. Although significant cultural differences may pose obstacles to the adaptation process of international students, frequent cultural contact has been found to effectively mitigate the negative impacts of such differences. This effect is evident across different gender and professional background groups of international students, contributing to an overall improvement in their cross-cultural adaptation ability (Sathish et al., 2024). Through continuous exposure to different cultures, international students can more effectively deal with the confusion caused by cultural differences, reduce feelings of psychological alienation, and achieve better

adaptation in multicultural environments (Kim et al., 2020).

Cross cultural contact frequency also serves as a moderating factor between learning motivation and cross-cultural adaptation. When international students have a high level of learning motivation, frequent cross-cultural interactions further stimulate their willingness to communicate with locals and enhance their confidence in language learning, enabling them to more calmly face various challenges in the cultural adaptation process (Sathish et al., 2024; Turner et al., 2021). Relevant studies have pointed out that high-frequency cultural contact not only strengthens the positive impact of learning motivation on self-regulation ability but also helps reduce adaptation pressure and enhance the psychological well-being of international students, allowing them to more effectively utilize their motivational resources to adapt to new environments (Jurásek & Wawrosz, 2022).

Cross cultural adaptation theory

This research is rooted in Young Yun Kim's theory of cross-cultural adaptation, which views the process of an individual entering a new cultural environment as a dynamic and multi-dimensional "stress-response-growth" spiral mechanism (Kim, 1995). Under this logical framework, cultural distance is defined as the core environmental stressor that an individual must confront. The degree of difference in values and behavioral norms between the local culture where students study and their home culture directly determines the difficulty of adaptation. Kim (2017) emphasizes that the success or failure of adaptation depends on an individual's adaptive capacity, which in this project is specifically manifested as the synergy of internal resources and external support. Learning motivation, as an internal driving force, determines the subjective willingness of international students to integrate into the new environment, while social support, as a key external resource, provides necessary information assurance and emotional buffering for students to cope with the aforementioned cultural stress.

Furthermore, a core proposition of this theory is that adaptation must be achieved through continuous communication with members of the host culture, which provides a solid theoretical basis for understanding the moderating role of cross-cultural contact frequency in the adaptation path (Kim, 2017). High-frequency interaction is regarded as a decisive factor in optimizing resource allocation and mitigating the impact of cultural distance. To deepen the argumentation of this mechanism, this study further introduces Allport's contact hypothesis as a complementary framework. This theory holds that interactions of a certain frequency and quality between different cultural groups can significantly reduce cultural biases and enhance mutual understanding.

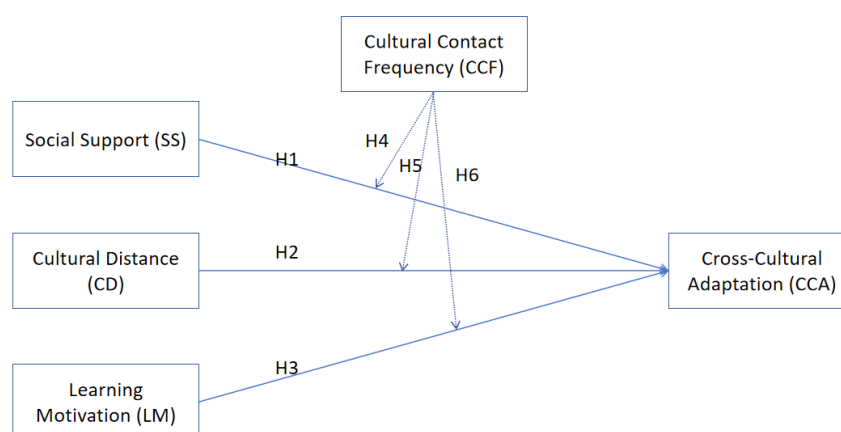
In the specific regional context of Jiangxi, the contact hypothesis provides an important supplement to the adaptation logic of international students. Frequent cross-cultural contact can amplify the positive effect of social support in reducing anxiety, and by building cross-cultural familiarity, it can counteract the sense of alienation caused by cultural distance. More importantly, this continuous interaction provides a necessary practical platform for the transformation of learning motivation into actual adaptive behavior, enabling international

students to convert their internal willingness into effective cultural competence through frequent social participation, thereby achieving comprehensive cross cultural adaptation from psychological adjustment to behavioral integration.

Research Framework and Hypothesis

This study constructs a multi-dimensional influencing factor model, where the independent variables are social support (SS), cultural distance (CD), and learning motivation (LM). These three variables predict the adaptation status from three dimensions: external environmental support, cross-cultural barriers, and individual internal driving force. The dependent variable is set as cross-cultural adaptation (CCA), aiming to comprehensively evaluate the final effectiveness of international students in Jiangxi in terms of psychological adjustment and social and cultural integration. The moderating variable introduces the frequency of cross-cultural contact (CCF), to explore how the interaction frequency between international students and local cultural members intervenes in the relationship between independent and dependent variables, that is, to examine whether it can change the intensity of the quantitative relationship by strengthening positive factors or offsetting negative impacts.

Figure 1: Framework



H1: Social support (SS) has a significant positive effect on cross-cultural adaptation (CCA).

H2: Cultural distance (CD) has a significant negative effect on cross-cultural adaptation (CCA).

H3: Learning motivation (LM) has a significant positive effect on cross-cultural adaptation (CCA).

H4: Cultural contact frequency (CCF) positively moderates the relationship between social support (SS) and cross-cultural adaptation (CCA).

H5: Cultural contact frequency (CCF) negatively moderates (buffers) the negative impact of cultural distance (CD) on cross-cultural adaptation (CCA).

H6: Cultural contact frequency (CCF) positively moderates the relationship between learning motivation (LM) and cross-cultural adaptation (CCA).

2. Methodology

Design

This study employed a quantitative research design using proportionate stratified random sampling to ensure representative diversity among international students in Jiangxi Province.

Participants

The population consisted of approximately 6,500 international students across 110 institutions. Stratification was based on institution type (undergraduate vs. vocational colleges), followed by proportional random sampling within each stratum. A total of 372 valid questionnaires were collected, meeting statistical power requirements for social science research.

Instruments

Measurement instruments were adapted from established scales and contextualized for the study environment. All items were rated on a five-point Likert scale. Instruments included: Social Support Scale (Cohen et al., 1985), Cultural Distance Scale (Demes & Geeraert, 2014), Learning Motivation Scale (Schreglmann, 2018), Cultural Contact Frequency Scale (Chen & Rahman, 2018), and Cross-Cultural Adaptation Scale (Peng & Wu, 2019).

Procedure

The sampling process involved stratifying the population by institution type and then applying proportional random sampling. Structured questionnaires were distributed to selected institutions, and invalid or contradictory responses were excluded to yield the final dataset.

Data Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed. The analysis followed a two-step approach: first, evaluating the reliability and validity of the measurement model; second, assessing the structural model to test research hypotheses. PLS-SEM was chosen for its suitability in handling complex models with multiple moderating paths and predictive objectives.

3. Results

Reliability Analysis

All five latent variables involved in this study demonstrated extremely high internal consistency, with Cronbach's Alpha coefficients far exceeding the 0.7 threshold generally recognized in the academic community. Specifically, the reliability of cross-cultural adaptation (CCA) was the highest (.977), followed by learning motivation (LM, .959), cultural distance (CD, .950), and social support (SS, .944). The frequency of cross-cultural contact (CCF) also reached a high level of .929. This indicates that each scale has strong reliability and stability when measuring the international student population in Jiangxi Province, accurately reflecting the true conditions of the respondents, and laying a solid reliability foundation for subsequent structural model path analysis and moderation effect testing through PLS-SEM.

Table 1: Reliability Analysis

Variables	Cronbach's Alpha	No of Items
Social Support (SS)	.944	12
Cultural Distance (CD)	.950	12
Learning Motivation (LM)	.959	15
Cultural Contact Frequency (CCF)	.929	11
Cross-Cultural Adaptation (CCA)	.977	23

Validity analysis

Based on the test results, the validity of the data in this study is extremely ideal. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.969, which is far above the generally accepted excellent standard of 0.8 in the academic community (and close to 1.0), indicating that there are extremely strong common features among the observed variables, the sample size is sufficient, and there is a high correlation among the variables. In addition, the approximate chi-

square value of Bartlett's Test of Sphericity is 21988.215 (with 2628 degrees of freedom), and the significance p-value is less than 0.001, reaching an extremely significant level. This indicates that the correlation matrix of the original data is not an identity matrix, and there is a significant correlation among the variables. Combining the results of KMO and Bartlett's test, the data structure of this study is very clear, with an excellent validity basis, and is very suitable for further measurement model evaluation and path relationship verification using PLS-SEM.

Table 2. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.969
Bartlett's Test of Sphericity	Approx. Chi-Square	21988.215
	df	2628
	Sig.	.000

Measurement Model Specification

In the model construction of this study, the five latent variables, Social Support (SS), Cultural Distance (CD), Learning Motivation (LM), Cultural Contact Frequency (CCF), and Cross-Cultural Adaptation (CCA), are all identified as reflective measurement models. The logical basis for this classification is that the latent variables are viewed as the common cause of their corresponding observed indicators; thus, any change in the essence of a latent variable will be simultaneously mapped onto the score variations of its subordinate indicators. For instance, an increase in an individual's intrinsic learning motivation would lead to a consistent upward trend in items such as the perceived value of an academic career (LM2) and the initiative for self-improvement (LM5). Similarly, the advancement of cross-cultural adaptation capacity is directly manifested through a deeper understanding of the host country's values (CCA2) and patterns of thinking (CCA5).

Furthermore, the indicators under each latent variable possess high levels of homogeneity and interchangeability, meaning that the removal of

specific descriptive indicators (such as specific social scenarios in the SS scale) would not substantively alter the overall construct of the variable. Based on these reflective properties, the subsequent PLS-SEM analysis strictly follows the evaluation procedures for reflective models. The reliability and validity of the measurement model are verified by examining key parameters, including outer loadings, composite reliability (CR), and average variance extracted (AVE).

Measurement Model Assessment

Consistency Reliability and Convergent Validity Testing

During the measurement model evaluation phase of this study, reliability and validity assessments were conducted for the moderating variable "Cross-Cultural Contact Frequency (CCF)" and other predictor variables. The results indicated that CCF achieved a Cronbach's Alpha value of 0.929, a composite reliability (ρ_c) of 0.940, and an average variance extracted (AVE) of 0.586—all of which exceeded commonly recommended thresholds (typically requiring $\text{Alpha} > 0.7$, $\text{CR} > 0.7$, and $\text{AVE} > 0.5$). The composite reliability values for the remaining

variables (CCA, CD, LM, SS) ranged from 0.951 to 0.978, and their AVE values were all above 0.618, demonstrating satisfactory measurement quality. These findings indicate that all constructs exhibited adequate internal consistency and convergent validity, thereby establishing a solid

measurement foundation for the subsequent path analysis of moderating effects. Additionally, validation was performed according to criteria such as the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio.

Table 3: Results of Internal Consistency Reliability and Convergent Validity Testing

	Cronbach's alpha	Composite reliability	Composite reliability	Average variance extracted
CCA	0.977	0.977	0.978	0.664
CCF	0.929	0.930	0.940	0.586
CD	0.950	0.951	0.956	0.645
LM	0.959	0.959	0.963	0.634
SS	0.944	0.944	0.951	0.618

Discriminant Validity

This study first assessed discriminant validity using the Fornell-Larcker criterion. As shown in Table 4, the square roots of the average variance extracted (AVE) for each latent variable (CCA, CCF, CD, LM, SS), which range from 0.765 to 0.815 (diagonal values), are all greater than the correlations between that variable and the other variables (off-diagonal values). This indicates that each construct shares more variance with its own indicators than with other constructs, providing initial evidence of adequate discriminant validity.

To further enhance the reliability of the validity assessment, the heterotrait-monotrait ratio (HTMT) was also examined. According to Table 5, all HTMT values between constructs range from 0.244 to 0.586, which are well below the commonly applied thresholds of 0.85 or 0.90. The HTMT results clearly demonstrate that the latent variables exhibit good discriminability, indicating that the measurement model is statistically distinct and supporting the validity of subsequent path analysis and hypothesis testing.

Table 4 :Fornell-Larcker Criterion

	CCA	CCF	CD	LM	SS
CCA	0.815				
CCF	0.546	0.765			
CD	0.568	0.345	0.803		
LM	0.535	0.369	0.510	0.796	
SS	0.499	0.229	0.404	0.407	0.786

Table 5: HTMT Ratio

	CCA	CCF	CD	LM	SS
CCA					
CCF	0.572				

	CCA	CCF	CD	LM	SS
CD	0.586	0.367			
LM	0.551	0.391	0.534		
SS	0.518	0.244	0.425	0.427	

Structure Model Assessment

Path Analysis

In the direct relationship test of the model, cultural distance (CD) demonstrates a significant positive effect on cross-cultural adaptation (CCA) ($\beta = 0.330$, $t = 6.294$, $p < 0.001$), with CD showing the strongest predictive power among all predictor variables. This result indicates that international students' perception of and ability to manage cultural differences are critical factors influencing their adaptation outcomes.

Second, learning motivation (LM) also shows a significant positive predictive effect on cross-cultural adaptation ($\beta = 0.262$, $t = 5.245$, $p < 0.001$), which suggests that strong learning objectives and career expectations can effectively assist international students in integrating into the host cultural environment.

Additionally, social support (SS) exhibits a significant positive relationship with cross-cultural adaptation ($\beta = 0.260$, $t = 4.872$, $p < 0.001$), further confirming the supportive role played by external social networks in facilitating psychological and behavioral adjustment among international students.

Figure 2: Structure Model of Direct Effect

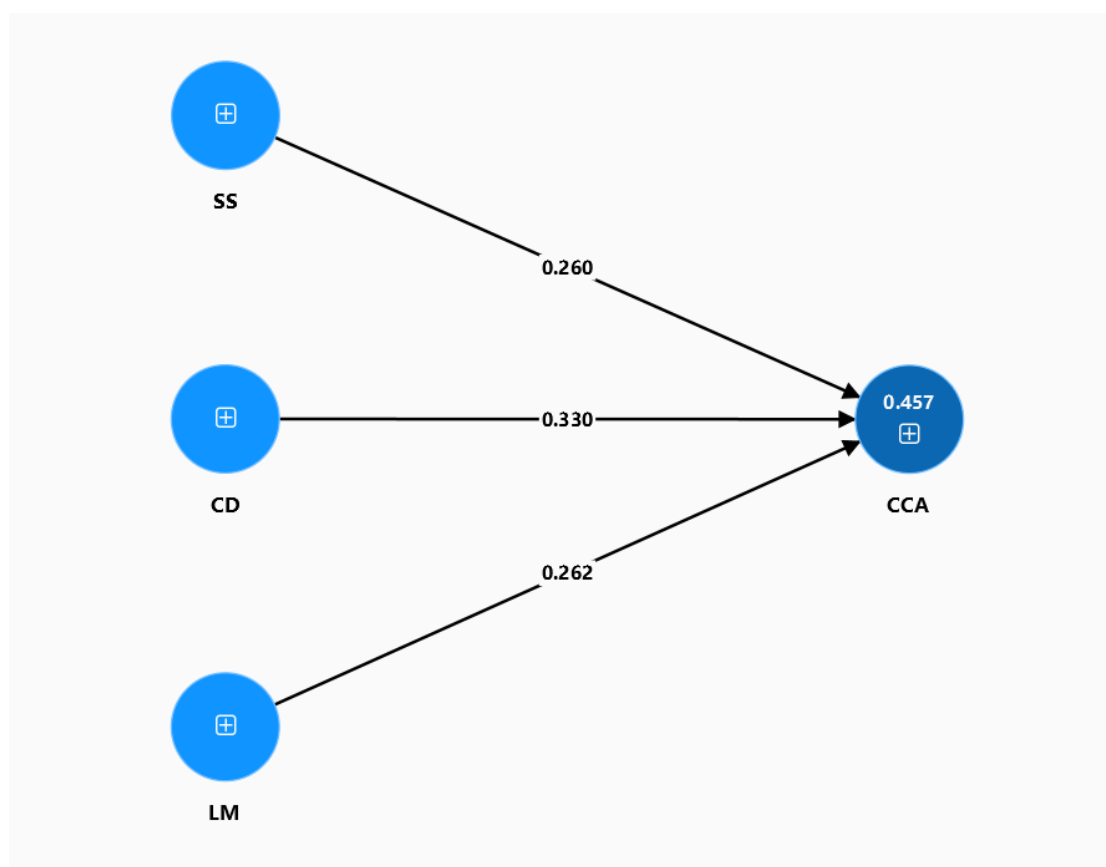
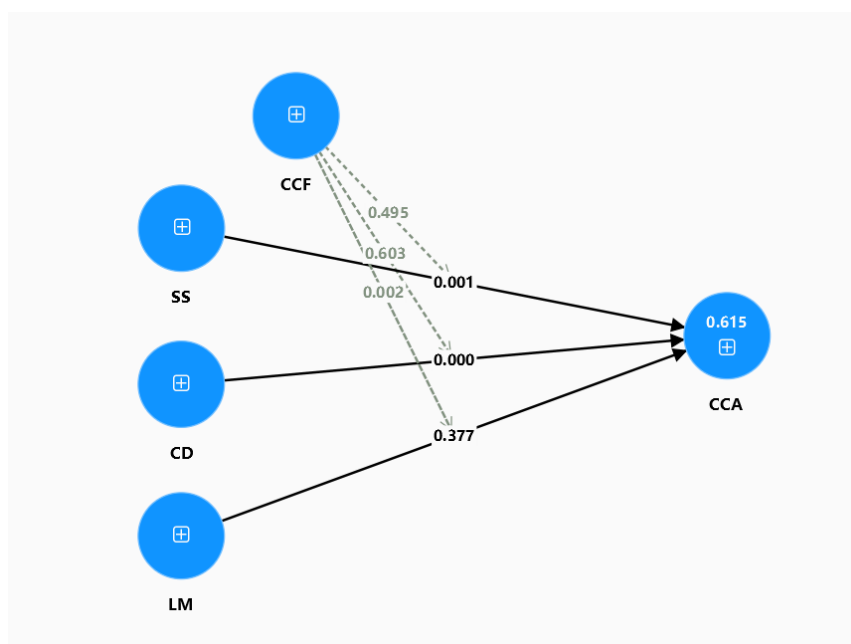


Table 8: Hypotheses Testing for Direct Effects

	O	M	STDEV	T statistics	P values
CD -> CCA	0.330	0.329	0.052	6.294	0.000
LM -> CCA	0.262	0.262	0.050	5.245	0.000
SS -> CCA	0.260	0.261	0.053	4.872	0.000

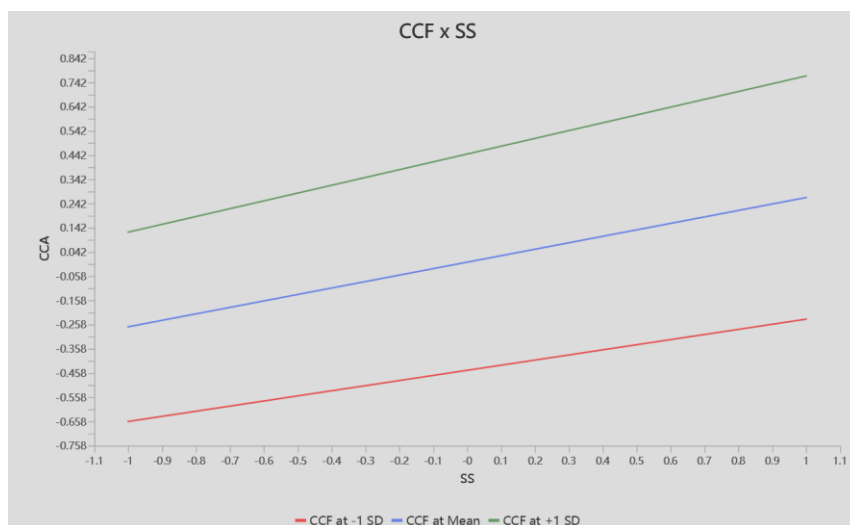
Moderating Effects Analysis

Figure 3: Structural Model with Moderating Effects

As shown in the simple slope diagram of Figure 4, the influence of social support (SS) on cross-cultural adaptation (CCA) presents certain visual differences at different levels of cross-cultural contact frequency (CCF). All three slope lines in the figure show an upward trend, reflecting that regardless of the frequency of contact, social support has a positive impact on the cross-cultural adaptation of international students. From the perspective of graphical representation, the slope of the green line at the high contact frequency (CCF at +1 SD) seems to be slightly higher than that of the red line at the low contact frequency (CCF at -1 SD), visually presenting a potential enhancement effect.

However, the results of the structural model test combined with Table 9 show that the path

coefficient of the interaction term (CCF x SS) is only 0.056, and the value (0.495) is much higher than the significance level of 0.05. This means that although simple slope graphs visually show minor differences in slope, such differences are not statistically significant. Therefore, this study cannot determine that the frequency of cross-cultural contact plays a moderating role between social support and cross-cultural adaptation, and the research hypothesis H4 is not supported. This indicates that among the group of international students in Jiangxi Province, the promoting effect of social support on adaptation is relatively stable and does not significantly depend on the frequency of individual contact with the local culture.

Figure 4: Simple Slope Plot of CCF Moderating the Relationship between SS and CCA (H4)

As illustrated in Figure 5, the simple slope plot visually depicts the relationship between Cultural Distance (CD) and Cross-Cultural Adaptation (CCA) across different levels of Cultural Contact Frequency (CCF). While the slope for high CCF (green line) appears slightly steeper than that for low CCF (red line), suggesting a potential enhancing trend, the structural model analysis results in Table 9 indicate that this interaction

effect is not statistically significant ($\beta = -0.045$, $p = 0.603$). Consequently, the data fails to provide sufficient evidence to conclude that CCF exerts a moderating influence on the CD-CCA relationship. Therefore, research hypothesis H5 is not supported, implying that the impact of cultural distance on adaptation is relatively consistent and does not significantly fluctuate based on the frequency of cultural contact.

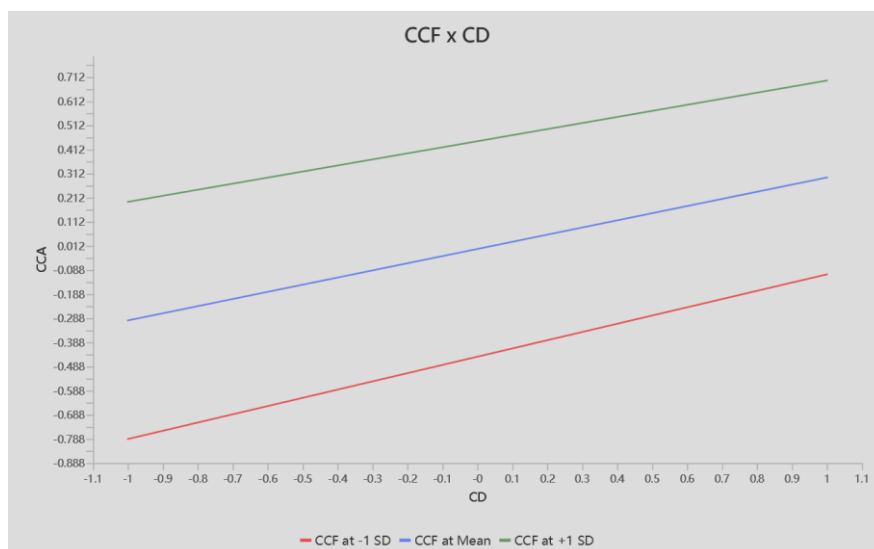
Figure 5: Simple Slope Plot of CCF Moderating the Relationship between CD and CCA (H5)

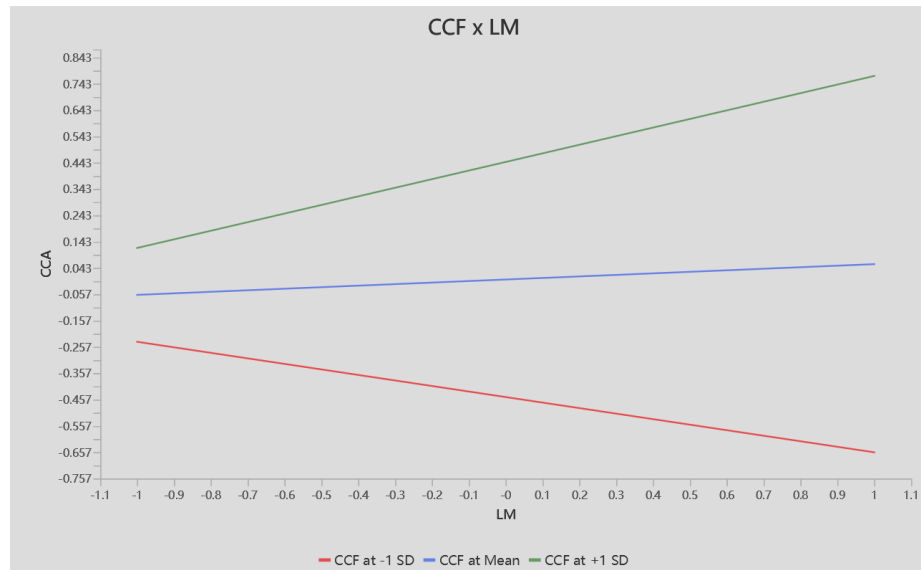
Figure 6 illustrates the moderating effect of Cultural Contact Frequency (CCF) on the relationship between Learning Motivation (LM) and Cross-Cultural Adaptation (CCA). The plot reveals a significant strengthening effect, where the impact of learning motivation on adaptation

results undergoes a fundamental shift depending on the level of cultural contact. Specifically, at low levels of CCF (red line), the slope is slightly negative, suggesting that without sufficient interaction with the host culture, strong learning motivation alone may not effectively translate

into successful adaptation. However, as the frequency of cultural contact increases to high levels (green line), the slope becomes steeply positive and significant. This indicates that high cultural contact acts as a critical "catalyst," enabling students' academic and professional motivations to be fully realized as positive

adaptive behaviors. Consequently, these findings provide strong empirical support for H6, demonstrating that the positive influence of learning motivation on cross-cultural adaptation is highly contingent upon active cultural engagement.

Figure 6: Simple Slope Plot of CCF Moderating the Relationship between LM and CCA (H6)



The structural model was tested using the Bootstrapping procedure in Smart-PLS, and the results are presented in Table 9. Regarding the direct effects, social support (SS) exerted a significant positive influence on cross-cultural adaptation (CCA) ($\beta=0.267, p=0.001$), thereby supporting H1. In contrast, although cultural distance (CD) had a statistically significant effect on cross-cultural adaptation ($p<0.001$), its path coefficient was positive ($\beta=0.296$), which contradicts the hypothesized negative relationship; thus, H2 was not supported. The

direct path of learning motivation (LM) was not significant ($p=0.377$), and H3 was therefore rejected. With respect to moderating effects, cross-cultural contact frequency (CCF) significantly moderated only the relationship between learning motivation and cross-cultural adaptation ($\beta=0.268, p=0.002$), thereby confirming H6. However, the moderating effects of CCF on social support (H4) and cultural distance (H5) did not reach statistical significance ($p>0.05$).

Table 9: Results of Moderating Effects Testing

Hypotheses	Path	Path Coefficient	T	P	Decision
H1	SS -> CCA	0.267	3.271	0.001	Supported
H2	CD -> CCA	0.296	4.241	0.000	Not Supported
H3	LM -> CCA	0.058	0.883	0.377	Not Supported
H4	CCF x SS -> CCA	0.056	0.683	0.495	Not Supported
H5	CCF x CD -> CCA	-0.045	0.520	0.603	Not Supported
H6	CCF x LM -> CCA	0.268	3.129	0.002	Supported

4. Discussion

The most significant finding of this study is the strong moderating effect of Cultural Contact Frequency (CCF) on Learning Motivation (LM) (H6). The results indicate that the impact of learning motivation on cross-cultural adaptation does not occur directly but is highly dependent on the frequency of an individual's interaction with the host culture. This explains why the direct effect of H3 was non-significant: mere learning motivation is insufficient for international students to automatically adapt to a new environment. Combined with the simple slope analysis (Figure 6), it is evident that internal learning motivation translates into effective adaptive behavior only when students actively participate in local social and cultural activities. This catalyst effect reflects that for students studying in non-first-tier cities like Jiangxi, due to the particularity of the linguistic environment and pace of life, proactively stepping out of the campus social circle is a critical prerequisite for achieving academic goals and psychological adaptation.

The results regarding the lack of support for H4 and H5 are equally profound. Although visual trends suggested that high contact frequency might enhance the effectiveness of social support, the statistical non-significance implies that the promotional role of Social Support (SS) in international student adaptation is cross-situational. Whether students have high or low levels of contact with locals, social support from relatives, friends, supervisors, or social networks consistently serves as a safety net for their life abroad, and its importance does not fluctuate significantly with changes in contact frequency. This reflects the universal safeguarding role of social support as a fundamental resource in cross-cultural adaptation.

The phenomenon where Cultural Distance (CD) exhibited a positive rather than the expected negative impact may be related to the specificity of the research sample. In the context of this study, a greater perceived cultural distance may have instead stimulated stronger curiosity and coping mechanisms among international students.

This phenomenon is known in cross-cultural psychology as the "compensatory effect of cultural learning motivation." Furthermore, the profound traditional cultural heritage of Jiangxi Province may instill a strong sense of novelty in students who perceive significant cultural differences, leading them to achieve higher levels of cross-cultural adaptation through active learning and experiential activities.

5. Conclusion

Through an empirical investigation of international students in Jiangxi Province, this study explores the impacts of social support, cultural distance, and learning motivation on cross-cultural adaptation, with a specific focus on the moderating role of cultural contact frequency. The research highlights the "catalytic" role exhibited by cultural contact frequency within the model. Findings confirm that the influence of learning motivation on adaptation does not occur directly but is highly dependent on the frequency of interaction between the individual and the host culture. This discovery bridges the logical gap in existing research regarding how motivation translates into behavioral outcomes and emphasizes the boundary value of social engagement within cross-cultural psychological mechanisms.

Secondly, as a safety net for cross-cultural adaptation, the positive promotional role of social support demonstrates significant stability. Regardless of an individual's social frequency, external support systems consistently serve as a critical resource for international students coping with the pressures of living abroad. Furthermore, the unexpected finding regarding the positive impact of cultural distance on adaptation reflects that the local culture of Jiangxi may stimulate individuals' desire for exploration and compensatory learning, thereby transforming into adaptive momentum. This provides a new perspective for understanding the impact of cultural differences.

At the level of educational management, universities and relevant administrative departments should recognize that merely enhancing students' academic motivation is

insufficient to ensure a smooth psychological and behavioral transition. It is recommended that institutions shift from "closed campus management" toward "territorial integration." By establishing off-campus practice bases, community volunteer services, and local cultural field trips, institutions can artificially increase the frequency of effective contact between international students and the local society, thereby activating their latent energy for learning and adaptation.

Limited by the regional nature of the sample, the generalizability of this study's conclusions to other economically developed regions or first-tier cities remains to be further verified. Future research could employ longitudinal study designs to observe the patterns of change in contact frequency across different academic stages and their dynamic impact on long-term adaptation quality.

6. References

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7. Author Declaration

The authors affirm that this manuscript is an original contribution to academic research. It has not been published elsewhere, nor is it under review by any other journal. All data, analyses, and interpretations were independently conducted by the authors, with proper citations provided for referenced materials. This ensures the integrity and authenticity of the work.

The authors declare that there are no conflicts of interest related to this study. No financial, institutional, or personal factors have influenced the design, execution, or reporting of the research. The results and conclusions are presented objectively, ensuring transparency and credibility in the dissemination of findings.