

Statistical analysis to assess the satisfaction level of foreign students in China concerning accommodation provided by the university

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ABSTRACT

The focus of this study was the assessment of the satisfaction level regarding accommodation provided by the University to International students studying in China. Southwest University of Political Science & Law, China was taken as a case study to complete this study. A questionnaire was designed and 152 international students studying at the Yubei campus were approached personally. The students filled out the questionnaires based on the main five variables, i.e. overview, bedrooms, dormitory services, study environment, and cultural exchange. SPSS and Smart PLS were used for data analysis. The factor loadings for all items exceed the threshold of 0.6, indicating strong associations between the items and their corresponding constructs. The Variance Inflation Factor (VIF) values, which measure multicollinearity, are all below 3, confirming that there are no significant redundancy issues among the items. Cronbach's alpha values for all constructs are above 0.7, demonstrating good internal consistency and reliability. The Average Variance Extracted (AVE) values, which assess convergent validity, are all above 0.5, indicating that each construct explains more than half of the variance in its items. A majority of SWUPL international students show considerably high satisfaction with university housing facilities, along with the student assistance structure and out-of-classroom possibilities. The positive experiences reported by students are directly related to the strong cooperation of SWUPL's International Student Office and the university's commitment to academic and non-academic activities.

Keywords: Accommodation for Students; International Students; Satisfaction of Students; SWUPL

1. Introduction

With the acceleration of globalisation, education internationalisation has become an important development trend in the field of higher education [1]. In recent years, China has experienced a strong increase in its educational influence over foreign territories, resulting in a growing number of international students educated in China [2]. These foreign students have not only brought multi-cultural exchanges and collisions to Chinese campuses but also become an important link in Sino-foreign educational exchanges and cooperation [3]. Without an iota of doubt, Chinese colleges and universities have attracted many international students due to quality education, high ranking of universities, advanced research undertakings, cross-cultural exchange experiences, and modern living standards [4]. As an important part of their campus life, university accommodation conditions have a profound impact on their learning effect, mental health, and overall impression of China. Therefore, it is of great significance to evaluate the level of students' satisfaction with their university accommodation. A suitable living environment creates safety while offering comfort and convenience to international students who experience foreign life challenges [5],[6], thus allowing them to concentrate better on academic pursuits and social integration into campus activities. On the one hand, good accommodation conditions are the basic guarantee for foreign students to study in China [7]. A comfortable living environment can provide them with relaxed physical and mental health, efficient learning space, ease the pressure on learning, and improve learning efficiency [8]. If the accommodation is poor, such as old room facilities, poor network signal, poor hygiene, etc., they may encounter a lot of inconvenience in life, thus distracting them from their studies, and affecting their academic and research performance because research is the main part of higher education which demands comfortable, convenient and peaceful environment. For the sake of academic development, it is a prerequisite to create a warm and convenient living environment for foreign students, as well as to optimize accommodation facilities and services in China.

When students first come to a foreign country, they face many challenges, such as cultural differences and language barriers, and the university dormitory is often the first place for them to contact and live for a long time [9]. A properly managed accommodation environment offers a feeling of inclusivity and cultural comfort that helps students overcome adaptation anxiety in their new surroundings [10]. On the contrary, if the accommodation is not satisfactory, it may aggravate their sense of loneliness and maladaptation and even affect their cultural cognition and emotional identity in China. Therefore, assessing satisfaction and improving accordingly will contribute to creating a harmonious cross-cultural communication atmosphere and promoting mutual understanding and integration of Chinese and foreign cultures. In addition, from the perspec-

tive of the long-term development of colleges and universities, the accommodation satisfaction of international students in China is an important manifestation of their level of educational internationalisation. With the increasingly fierce competition in international education, high-quality accommodation has become one of the important factors in attracting outstanding overseas students [11]. International students who are satisfied with their experience will promote Chinese universities to their fellow students from other countries, which improves the institutions' international status. Those students who are dissatisfied with the accommodation may have a negative evaluation of the overall image of the university, which may affect the international enrollment of the university [12]. Therefore, by regularly assessing satisfaction, colleges and universities can continuously optimise their accommodation services, enhance their competitiveness in the international education market, and attract more outstanding foreign students to China, promoting the sustainable development of international education

The purpose of this study is to explore the degree of international students' satisfaction with the accommodation conditions in China. This study was conducted at Southwest University of Political Science & Law, Chongqing, China. The objective of this study was;

- To fully understand the actual feelings and needs of international students in terms of the accommodation environment, facilities, and management services.
- To analyse the key factors affecting satisfaction and put forward practical suggestions for improvement given the existing problems.
- To optimise the accommodation management strategy and improve the accommodation conditions to enhance the overall satisfaction of international students.

2. Methodology

The research study was quantitative [13], and a survey method was adopted to seek information regarding the “Statistical Analysis to Assess the Satisfaction Level of Foreign Students in China for Accommodation Provided by University”. It relied on a deductive analysis approach with rational endings and offered some findings in the shape of statistics and aggregated data [14],[15]. Sample Selection is necessary for the accurate determination of the required sample size [16]. Optimal Sample Selection is required to confirm the hypothesised causal relationships. Partial Least Squares-Structural Equation Modelling Technique (PLS-SEM) was used by using Statistica 13.3 for data analysis. Non-Probability Sampling Technique was planned and adopted [17]; among the Non-Probability Sampling Techniques, the Purposive Sampling Technique was used. A self-administered questionnaire was used as a survey instrument. The questionnaire consists of 6 main sections. The first section includes general demographic information of the re-

spondents. All the statements were measured by a five-point Likert- scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). To determine the tenability of the research model, pilot testing was done among 30 respondents. The data collected via questionnaires was codified and entered into SPSS to check the reliability of the questionnaire.

The data was collected from international students studying at Southwest University of Political Science & Law, China. A sum of 152 students from the Yubei campus were personally approached to fill out the questionnaires. Students were well informed about the purpose of this study and how to fill out questionnaires. Informed consent was obtained from students and their identity would be hidden.

3. Case Study

The Southwest University of Political Science & Law, Chongqing, China (SWUPL) is an important institute of legal education in China that serves legal studies disciplines. SWUPL fulfils its substantial goals through its mission to train legal experts and provide degree programs to university students in law, economics, and political science. The university focused on developing academic strength, and research capabilities and building better facilities that attracted international students and domestic students to enrol. Southwest University of Political Science and Law enrolls students from all over the world, including ASEAN countries, African countries, European countries, and Latin America. The total number of international students at Southwest University of Political Science and Law is more than 290. International students at Southwest University of Political Science and Law receive assistance through bilingual staff who provide student services to help them. The following [Figure 1](#) represents the map of Chongqing, where SWUPL is located.

3.1. History of SWUPL

The following is the brief history of Southwest University of Political Science and Law as per the official website.

“Southwest University of Political Science and Law (SWUPL) is located in Chongqing City with the most potential in China, the upstream area of the Yangtze River. Founded in 1950, it is one of the earliest established higher political and legal institutions and the first batch of key universities since the reform and opening up of China. SWUPL is the university with the largest number of legal talents in China. A large number of alumni have become backbones and leading figures in the law field and other professions. In 2018, SWUPL's master's degree in law was rated as A level by the China professional degree assessment of the Ministry of Education(MOE), together with Tsinghua University, Wuhan University and Jilin University, becoming the only A-level professional degree authorisation point in Chongqing. In 2017, in the 4th round of discipline evaluation by MOE, the discipline of law was also rated as A level, together with Peking University, Tsinghua University and so on. SWUPL is also the key university co-administered by

the Ministry of Education and Chongqing Municipality. Now SWUPL has strong international exchange programs all over the world, with more than 90 partner universities from U.S., Canada, United Kingdom, France, Germany, Australia, Japan, Thailand, South Korea and so on. SWUPL has established institutions such as the Human Rights Research Institution, the China-ASEAN Law Research Centre and so on. SWUPL consists of 14 schools, including: School of Civil and Commercial law; School of Economic Law; Law School; School of Administrative Law; School of International Law; School of Criminal Investigation; School of Business; School of Economics; School of Foreign Languages; School of Journalism and Communication; School of Politics and Public Administration; School of Marxism; School of Artificial Intelligence Law; School of International Education”[18].

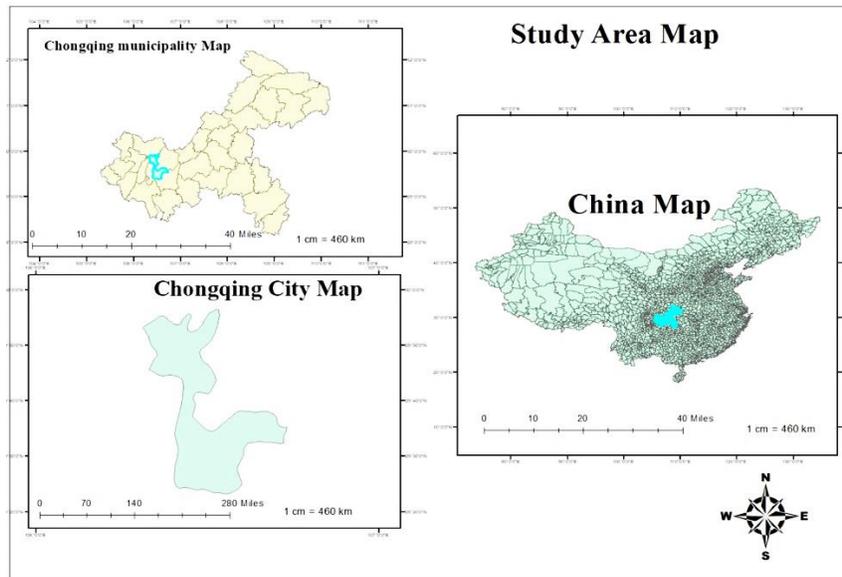


Figure 1: Map of Chongqing municipality and city.

3.2. Demographic information respondents

The university has a total number of 293 international students, with 246 enrolled at the Yubei campus and 47 at the Baosheng Lake campus. We collected data from 152 students available at the Yubei campus during April 2025. The gender-wise data of respondents is given in Table 1 and Country-wise in Table 2, respectively.

Table 1:

Gender-wise data of respondents participating in this research activity

Gender	Frequency	Percent
Male	58	38.2
Female	94	61.8

Total	152	100.0
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Table 2:
Country-wise number of respondents along with percentage

Countries	Students	Percent
Morocco	2	1.3
Pakistan	15	9.9
France	6	3.9
Laos	43	28.3
Egypt	2	1.3
Bangladesh	4	2.6
Cambodia	4	2.6
Taiwan	2	1.3
Uzbekistan	7	4.6
Russia	8	5.3
Thailand	14	9.2
Vietnam	16	10.5
Africa	4	2.6
Korea	11	7.2
Indonesia	6	3.9
Tajikistan	5	3.3
Yamen	3	2.0
Total	152	100.0

Table 3:
Demographic information of respondents regarding the study program at SWUPL

Level of Education	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor	44	28.9	28.9	28.9
Master	41	27.0	27.0	55.9
PhD	13	8.6	8.6	64.5
Exchange Student	16	10.5	10.5	75.0
Chinese Language	38	25.0	25.0	100.0

The following [Figure 2](#) represents respondents from different countries in a pie chart

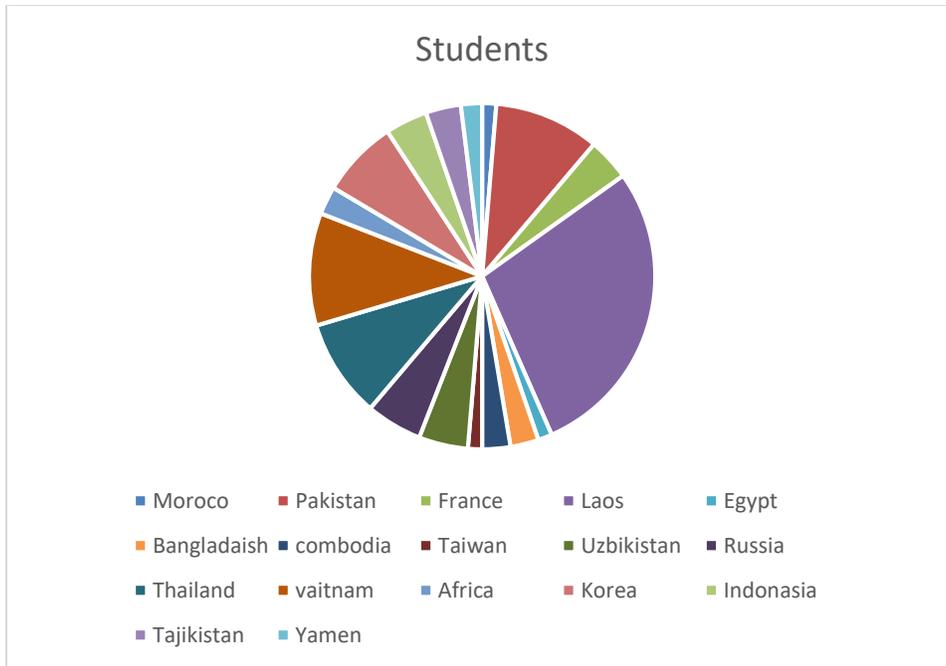


Figure 2: SWUPL Respondents from different countries

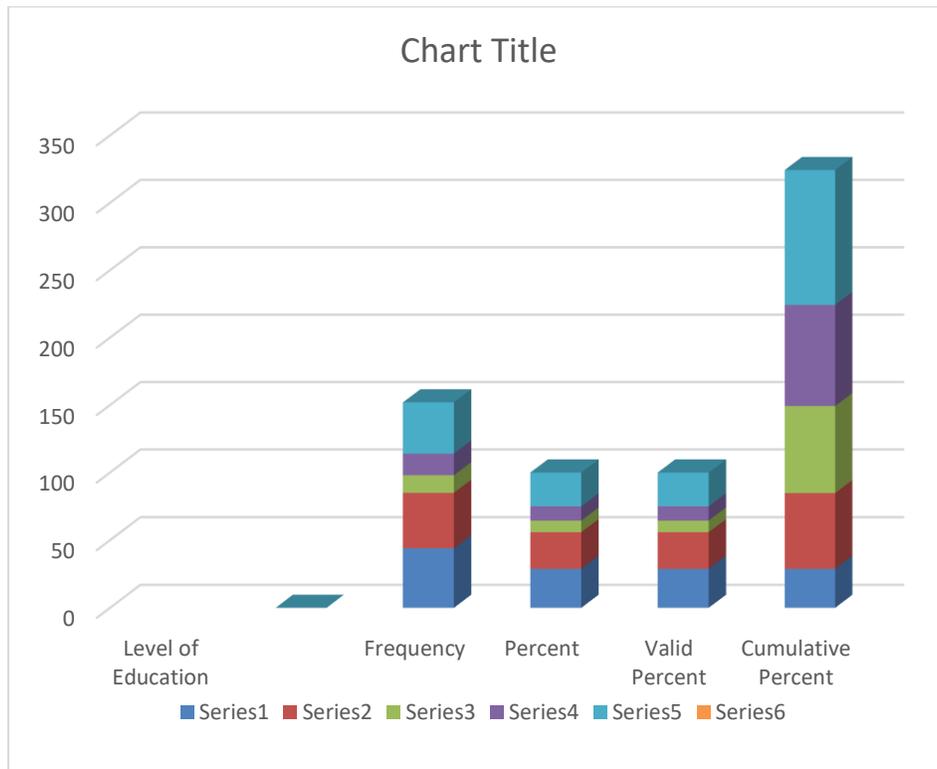


Figure 4: Graphical representation of Table 3 data

The above Table 3 shows the degree-wise data of respondents, whereas Figure 4 is the Graphical representation of Table 3 data.

4. Data Analysis

The students filled out the questionnaires based on the main five variables (overview, bedrooms, dormitory services, study environment, and cultural exchange) that were subdivided into different questions, as shown in Figure 5 and Figure 6 represent the relationship between variables.

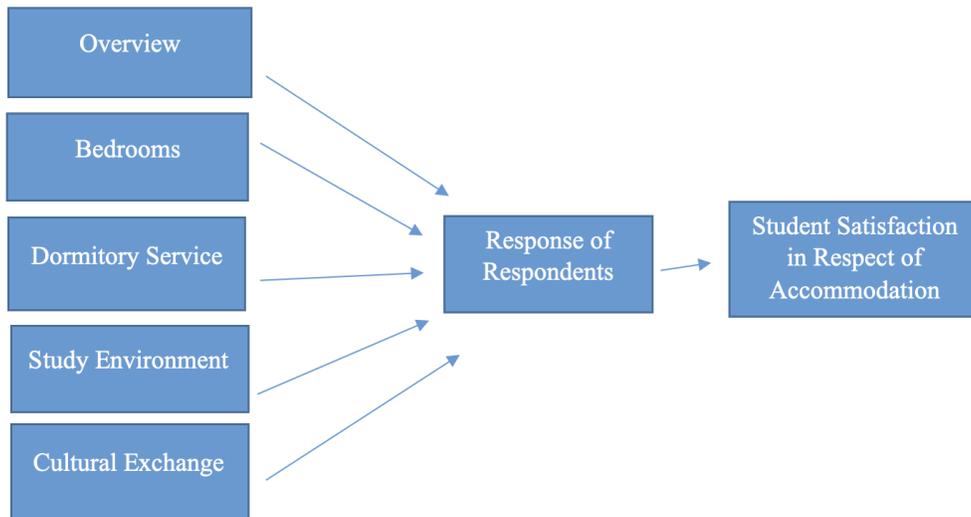


Figure 5: Flowchart of questionnaire variables

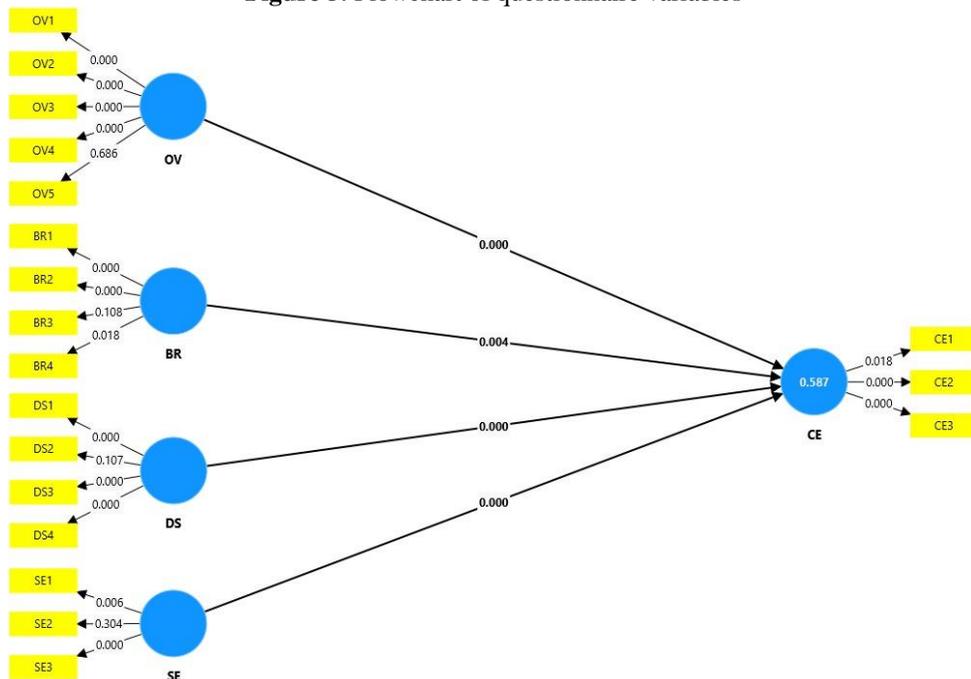


Figure 6: Relationship between variables

The following [Table 4](#) shows Factor Loading, VIF, Cronbach's alpha, and AVE values of variables. Whereas [Table 5](#) shows Heterotrait-Monotrait Ratio (HTMT), [Table 6](#) shows Fornell & Lacker, and [Table 7](#) shows the Direct effect of variables, respectively.

Table 4:
Factor loading, VIF, cronbach's alpha, and AVE values of variables

Variables	Items	Factor Loading	VIF	Cronbach's alpha	AVE
Overview	OV1	0.715	1.818	0.754	0.504
	OV2	0.737	1.869		
	OV3	0.718	1.337		
	OV4	0.674	1.567		
	OV5	0.703	1.62		
Bed Rooms	BR1	0.798	1.886	0.774	0.596
	BR2	0.779	1.912		
	BR3	0.729	1.41		
	BR4	0.781	1.538		
Dormitory Services	DS1	0.734	2.235	0.733	0.527
	DS2	0.673	1.134		
	DS3	0.789	1.3		
	DS4	0.743	2.496		
Study Environment	SE1	0.858	1.621	0.747	0.566
	SE2	0.756	1.555		
	SE3	0.688	1.087		
Cultural Exchange	CE1	0.982	1.017	0.790	0.543
	CE2	0.714	1.773		
	CE3	0.689	1.759		

Table 5:
Heterotrait-monotrait ratio (HTMT) of variables

	BR	CE	DS	OV	SE
BR					
CE	0.335				
DS	0.529	0.465			
OV	0.7	0.413	0.801		
SE	0.602	0.543	0.513	0.479	

Table 6:
Fornell & lacker values

	BR	CE	DS	OV	SE
BR	0.772				
CE	0.319	0.607			
DS	0.405	0.426	0.68		
OV	0.543	0.437	0.627	0.71	
SE	0.438	0.353	0.329	0.339	0.759

Table 7:
Direct effect of variables

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P values
BR -> CE	-0.209	-0.213	0.072	2.921	0.004
DS -> CE	0.402	0.404	0.044	9.22	0
OV -> CE	0.296	0.29	0.063	4.714	0
SE -> CE	0.356	0.352	0.062	5.758	0

Table 4 assesses the reliability and validity of the constructs and their respective items. The factor loadings for all items exceed the threshold of 0.6, indicating strong associations between the items and their corresponding constructs. For instance, the item CE1 under Cultural Exchange has an exceptionally high loading of 0.982, suggesting it is a near-perfect indicator of its construct. The Variance Inflation Factor (VIF) values, which measure multicollinearity, are all below 3, confirming that there are no significant redundancy issues among the items. Cronbach's alpha values for all constructs are above 0.7, demonstrating good internal consistency and reliability. The Average Variance Extracted (AVE) values, which assess convergent validity, are all above 0.5, indicating that each construct explains more than half of the variance in its items. For example, the AVE for Bedrooms is 0.596, meaning that the construct accounts for 59.6% of the variance in its indicators. These results collectively confirm that the measurement model is both reliable and valid.

4.1. Discriminant validity assessment

The Heterotrait-Monotrait Ratio (HTMT) and Fornell-Larcker criterion tables evaluate whether the constructs are distinct from one another. The HTMT values, which compare correlations between different constructs to those within the same construct [19], are all below the conservative threshold of 0.85. The highest HTMT value is 0.801 between Dormitory Services (DS) and Overview (OV), which is still within acceptable limits, suggesting no severe issues with discriminant validity. The Fornell-Larcker criterion further supports this by showing that the square

root of the AVE for each construct (diagonal values) is greater than its correlations with other constructs. For example, the square root of AVE for Bedrooms (0.772) is higher than its correlation with Cultural Exchange (0.319), reinforcing the distinctiveness of these constructs. These findings confirm that the constructs are empirically separable and measure different aspects of the model.

4.2. Path analysis and hypothesis testing

The final table examines the direct effects between constructs, providing insights into the hypothesised relationships. The path coefficients (Original Sample), along with their significance levels (T statistics and p-values), reveal several key findings. First, Bedrooms (BR) has a significant negative effect on Cultural Exchange (CE) with a coefficient of -0.209 ($p = 0.004$), suggesting that an increase in Bedrooms is associated with a decrease in Cultural Exchange. This could imply that factors like overcrowding or lack of privacy in bedrooms hinder social interactions. In contrast, Dormitory Services (DS), Overview (OV), and Study Environment (SE) all have significant positive effects on Cultural Exchange, with coefficients of 0.402, 0.296, and 0.356, respectively (all $p < 0.001$). These results indicate that better dormitory services, a positive overview of the living environment, and a conducive study environment all enhance cultural exchange among residents. The strong T statistics (all above 2.58) and negligible p-values further reinforce the robustness of these relationships.

5. Discussion

This research investigated international students' satisfaction with accommodation facilities at the Southwest University of Political Science and Law, China. The analysis involved the application of the SmartPLS method together with HTMT and the Fornell-Larcker criterion, which served to validate the measurement model along with direct effect analyses. Results show exceptionally high values, which validate the construct validity and support the finding that SWUPL international students have positive feelings about their accommodation facilities. The model demonstrates reliability and validity through these findings, which enables proper conclusions about the data.

SWUPL provides students with various extracurricular opportunities that supplement their Chinese experience tremendously. SWUPL provides students with the chance to participate in martial arts classes and basketball competitions, cultural exchanges, and organises educational exploration activities. Students engage in such activities to build their physical abilities and social relationships and simultaneously acquire broader knowledge of Chinese history and cultural traditions, and ethical values. The International Student Office at SWUPL organises historical site vis-

its, which allow its students to experience China's vibrant cultural heritage directly. Academic interaction and community involvement among students with varied ethnic backgrounds occur through these student programs. [Figure 7](#) is the entrance of SWUPL's main library for students, where a portion is fixed for international students.



Figure 7: Art of the state library of SWUPL

All respondents marked satisfaction with their university accommodation facilities. The students ranked cleanliness above all else, besides emphasising safety, accessibility, and dormitory environment support. Student satisfaction regarding their accommodation directly corresponds to academic success, as research worldwide has established this connection [12],[20],[21]. The implemented initiatives produced benefits for students; they gained stronger language proficiency and were absorbed into Chinese culture. Such deep involvement represents a critical aspect for students who study abroad since they need to adapt to both classroom learning and an unfamiliar social setting. SWUPL establishes a powerful example through its dedication to academic success, cultural integration, and student well-being, which guides institutions intending to attract and retain international students.

6. Conclusion

International students studying at SWUPL evaluated their accommodation and support services in this research study. A majority of SWUPL international students show considerably high satisfaction with university housing facilities, along with the student assistance structure and out-of-classroom possibilities. The positive experiences reported by students are directly related to the strong cooperation of SWUPL's International Student Office and the university's commitment to academic and non-academic activities. The study was restricted to Southwest University

of Political Science & Law due to financial and time constraints. Observations made at SWUPL regarding its environmental elements and administrative system can predict how other Chinese universities provide services to international students. Student satisfaction at this level could exist throughout Chinese institutions since active student involvement and strong administrative backing are prioritised. Future research may be conducted at different universities in different countries to compare the research results.

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Declaration

Author Contribution: *A.F, B.A* and *J.A.* conceived the idea and designed the research; analysed interpreted the data and wrote the paper.

Availability of Data and Material: The data is given in the paper.

Conflict of Study: *NA*

Ethical Approval and Consent of Participation: All procedures complied with the ethical principles outlined in the Declaration of Helsinki. Informed consent was obtained from the participants; every participant was informed that their answers would remain private and anonymous and that the information would only be used for the study.

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