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Article

A case study on the culture shock of international students in the medical school of Regional University

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Abstract:

Background: An increasing number of students pursue higher education in universities located in culturally distinct regions, often far from their hometowns. This transition frequently subjects students to significant culture shock and challenges in cultural adaptation, which can adversely impact academic performance.
Objectives:
There is not enough information about the factors that might lead to students who successfully study in aboard areas. In this paper, we report on experiences of culture shock that do medicine teaching on Principles of Surgery.
Methods:
Using the tools of questionnaire, we investigate the relationship between cultural adaptation and academic success among such students, focusing on a cohort studying Principles of Surgery. By analyzing factors including academic performance in the core course, prior educational background, gender, and pre-existing levels of cultural acceptance, the research identifies key predictors of successful adaptation.
Findings:
In our sample, establishing friendships with Chinese students who had prior international experience provided additional academic and cultural advantages.
Conclusion:
This study aims to propose targeted, evidence-based strategies to support the holistic integration of non-local students, thereby facilitating both their cultural adjustment and academic achievement.

Keywords: Case study, Culture shock, Cultural adaptation, international students, The medical school, Regional University.

Introduction

Global health field for professional medicine has a variety of chances. More students than ever are studying across international borders [1], they would speak and study in hundreds of languages, but English would be the first choice.
Many students are involved practicing in different far from their environments, often in regions with cultural environments different from their own living places. These students commonly face challenges related to culture shock and cultural adaptation at the same time. Even when students are aware of cultural differences beforehand, the adjustment process can be highly demanding.
The difficulties are further compounded when a student is unaware of such differences and mistakenly assumes that the new environment operates similarly to their home country. In such cases, international students may easily feel overwhelmed and disoriented—a phenomenon commonly referred to as "culture shock."
The researcher has previously described the mental health outcomes of guys who had the culture shock. In the field of mental health, particularly within epidemiology, numerous large-scale cross-national studies have been conducted. Among the notable scholars in this area is Peter Adler [2], who is widely recognized for his theory of the "transitional experience" of culture.
The term "culture shock" describes the psychological and emotional impact experienced by individuals who enter an unfamiliar cultural setting. Student sojourners represent a growing segment of such cultural travelers in many countries.
It is not surprising, therefore, that a considerable number of researchers have already focused on understanding the issues of culture shock and adaptation among these students. In fact, student

sojourners may be one of the most extensively studied groups in cross-cultural research, partly because they are relatively accessible as research participants.
Previous studies have identified four major factors contributing to culture shock: cognitive, behavioral, phenomenological, and socio-psychological aspects.
In this manuscript, we report on some experience on medical trainings of culture shock. There are approximately 334 medical students from South Asia studying at The First Affiliated Hospital of Jiamusi University, which is located in northeastern China. By analyzing factors such as their performance in the Principles of Surgery course, educational background, gender, and level of cultural acceptance, this study aims to propose new strategies to facilitate academic and cultural adaptation among these students.

Methods

Participants
The data were collected from three primary sources: students' scores on the Principles of Surgery examinations, their class attendance records, and their surgical report submissions. The study cohort consisted of 334 students in total, with 147 from India, 132 from Pakistan, and 55 from Nepal.
Procedure
The researchers developed a three-page questionnaire specifically for this study. Demographic information collected included gender, age, region of origin, participation in campus activities, academic status, scores in the Principles of Surgery course, and level of acceptance toward Chinese culture. The survey was administered in a paper-and-pencil format and received approval from the Ethics Committee of The First Affiliated Hospital of Jiamusi University in China. Additionally, qualitative data were gathered through open-ended comments shared by students such as during tea party activities, where they discussed their experiences with campus life.

Table 1: Data about the primary surgery scores of international students

Variable Type	Variable	Categories / Coding
Dependent variable	Y	Y1 = ≤mean, Y2 = >mean
Independent variable	X	
Age	X1	≤18=1, 18–22=2, ≥22=3
Gender	X2	male=1, female=2
Region	X3	Indian=1, Pakistan=2, Nepal=3
Performance in class	X4	active=1, common=2, not active=3
Choice of Chinese diet	X5	seldom=1, regular=2
Knowledge of Chinese culture	X6	like=1, like passive=2, not like=3
Campus resource	X7	familiar=1, accompany classmate=2, not known anything=3
Comfort approaching Chinese person	X8	bad=1, good=2
Amusement	X9	reading=1, travel=2, sport=3

All surveys were completed within the two-week period preceding the semester break. A follow-up investigation was conducted with the same cohort in May 2010, prior to their departure from Jiamusi University. All statistical analyses were performed using SPSS software (version 13.0), with a two-sided p-value of less than 0.05 considered statistically significant.

Results

Basic data

The information regarding gender distribution, regional origin, total number of participants, and the academic year of enrollment for the international students is summarized in Table 2.

Table 2: Data of international medicine students

	2005 Grade (%)	2006 Grade (%)	2007 Grade (%)
Indian	99	27	21
Male	79(79.8%)	21(77.8%)	13(61.9%)
Female	20(20.2%)	6(22.2%)	8(38.1%)
Pakistan	75	34	23
Male	57(76.0%)	31(91.2%)	12(52.2%)
Female	18(24.0%)	3(8.8%)	11(47.8%)
Nepal	24	20	11
Male	19(79.2%)	14(70.0%)	8(72.3%)
Female	5(20.8%)	6(30.0%)	3(27.7%)
Total	198	81	55
Male	155(78.3%)	66(81.5%)	33(60.0%)
Female	43(21.7%)	15(18.5%)	22(40.0%)

The survey was completed by 334 participants, comprising 249 males (74.56%) and 85 females (25.44%). The majority of students were between 20 and 26 years of age, with two older participants aged 39 and 42. Over the three-year period, the mean scores for the Principles of Surgery course were 85.0 ± 8.92, 85.25 ± 5.64, and 82.1 ± 6.74, respectively.

Among the participants, 147 were from India (113 male, 34 female), 132 from Pakistan (100 male, 32 female), and 55 from Nepal (36 male, 19 female). Female students were consistently outnumbered by males across all nationalities. The proportions of female students by country were 23.13% for India, 24.24% for Pakistan, and 34.55% for Nepal, with the differences being statistically significant ($P < 0.05$).

As summarized in Table 3, the mean Principles of Surgery scores were reported as 85.0, 85.25, and 82.1 across the three years. Academic performance among Indian and Nepalese students showed a declining trend over the years, whereas Pakistani students' results remained relatively stable. In the 2005 and 2007 cohorts, female students from India and Nepal outperformed their male counterparts on the Principles of Surgery examination. Additionally, in the 2005 cohort, Nepalese students achieved higher scores than those from India and Pakistan. There was no significant difference between Nepalese and Pakistani students in the 2007 cohort ($P > 0.05$), both two groups scored significantly higher than Indian students ($P < 0.05$).

Table 3: The scores of primary surgeries

Origin Region	Numbers	scores	Numbers	scores	Numbers	scores
Indian M	79	84.75±9.05	21	84.3±6.0	13	78.1±8.8
Indian F	20	86.0±8.5	6	87.5±7.6	8	81.25±4.45
Indian S	99	85.0±8.9	27	85.0±6.35	21	79.3±7.45
Pakistan M	57	82.35±8.15	31	84.7±5.75	12	85.0±6.75
Pakistan F	18	91.4±6.6	3	86.65±2.9	11	81.8±3.35
Pakistan S	75	84.55±8.65	34	84.85±5.55	23	83.5±5.5
Nepal M	19	91.3±5.75	14	86.05±5.25	3	78.35±5.75
Nepal F	5	95.0±5.0	6	86.65±4.1	8	87.0±5.7
Nepal S	24	92.1±5.7	20	86.25±4.85	11	85.65±5.5
Total	198	85.0±8.92	81	85.25±5.64	55	82.1±6.74

Indian M: Indian male students; Indian F: Indian female students; Indian S: the sum of Indian students; Pakistan M: Pakistan male students; Pakistan F: Pakistan female students; Pakistan S: the sum of Pakistan students; Nepal M: Nepal male students; Nepal F: Nepal female students; Nepal S: the sum of Nepal students.

Table 4: The logistic analysis of international medical students

Variable	B value	Standard error	Wald value	P value	OR value	OR value（95%CI）
Age	-0.063	0.031	5.1	0.0021	1.733	1.645~2.176
Performance in	0.711	0.019	22.47	0.0012	3.124	2.490~3.315
the class						
Choice of Chinese	-0.157	0.052	6.29	0.003	0.653	0.521~0.930
diet						
Gender（female*）	0.079	0.032	5.97	0.004	0.875	0.843~0.963
Approaching to	0.068	0.023	3.56	0.019	1.157	1.01~1.215
Chinese person						
Amusement	-0.233	0.058	6.32	0.002	0.933	0.812~0.950

Table 4 indicates that younger age, female gender, active class participation, adopting a non-Chinese diet, forming friendships with Chinese individuals, and engaging in after-class reading were positively associated with higher scores in the Principles of Surgery course. Among these factors, age (OR = 1.733), class participation (OR = 3.124), and interaction with Chinese people (OR = 1.157) demonstrated particularly strong correlations with academic performance. In contrast, neither nationality nor general attitude toward Chinese culture showed a statistically significant relationship with surgical course scores.

Discussion

The concept of "culture shock" was first popularized by Oberg in 1960 [3], who defined it as "the anxiety that results from losing all our familiar signs and symbols of social intercourse." The culture shock includes a 5 stages model: honeymoon, frustration, adjustment, acceptance, and reentry.

As illustrated in Table 5, these studies reflect the traditional theory of culture shock, which represents one of the most fundamental psychological issues faced by international students.

Theory	Epistemological origin	Originator	Conceptual formulation
Grief and bereavement	Psychoanalytic tradition	Bowlby 1969	Sees migration as experience of loss
Locus of control	Applied social psychology	Rotter 1966	Control beliefs predict migration
Selective migration	Social-biology psychology	Wells 1907	Individual fitness predicts adaptation
Negative life-events	Applied social psychology	Feather 1982	Expectancy values relate to adjustment
Social support	Clinical psychology	Holmes 1967	Migration involves life changes, and adaptation to changes is stressful
Value difference	Clinical psychology	Brown 1975	Social skill offers a buffering effect
			between life-events and depression
Social skills and	Social psychology	Merton 1938	Value differences lead to poor adaptation
culture learning	Social psychology	Kendon 1967	Lacking social skills may cause cross-cultural problems

Subsequent scholars have further examined its nature and causes. Zapf [4], for instance, describes culture shock as a negative phase within a broader transition process, which holds the potential for personal growth through psychological adjustment and the discovery of new perspectives. Abe [5] highlights that well-designed international peer programs can positively influence students, such as by fostering academic skill development. Research on culture shock [6] also suggests that exposure to foreign cultures can elevate individuals' physiological arousal and brain activity, thereby enhancing their performance in subsequent creative tasks.

Contemporary scholars increasingly note that the study of culture shock has shifted in its theoretical underpinnings, drawing more extensively from social psychology and education rather than medical science. For example, some researchers have adapted the culture synergy model to examine the pedagogical adaptation of international students in higher education [7]. The alignment—or misalignment—of pedagogical expectations not only opens avenues for research but also carries practical implications for pre- and post-departure preparation of both instructors and students, facilitating more effective adaptation. The multiple factors identified in such studies point to strategies for enhancing the overall experience of international students and their educators. Accordingly, institutional policies aimed at raising awareness, providing guidance, and supporting international students and faculty should be comprehensive and readily applicable in practice.

Non-Indigenous healthcare workers beginning their roles in remote Indigenous communities [8] enter complex cross-cultural environments. They work among populations whose culture—often distinct from the dominant "white" culture—differ markedly in language, customs, values, beliefs, rituals, and practices, including understandings of health and well-being. Beyond adapting to a new cultural setting, these professionals must also adjust to life in a remote area where medical and general resources are scarce. Training, orientation, and support programs are frequently inadequate or absent, leaving many unprepared for their community roles [9, 10].

Overseas-trained doctors play a significant role as general practitioners in Indigenous healthcare [11], navigating the intersection of three cultural spheres: Indigenous culture, the Australian healthcare system, and their own cultural background. Healthcare professionals working across these distinct cultural frameworks are highly vulnerable to the negative effects of culture shock, often experiencing cultural dissonance and conflict that may result in stress, burnout, and high turnover rates.

Effective communication poses a major challenge to the successful integration of non-Indigenous workers in remote communities [12]. On the far side of causing frustration for healthcare providers, poor communication is often cited as one of the most negative aspects of healthcare encounters for families from remote areas.

Researchers have documented similarities between Australian and Canadian Indigenous cultures, noting parallels in cultural values and social structures, as well as shared historical experiences such as colonial pasts, geographical conditions, population distribution, and treatment of Indigenous peoples [13].

Two contexts consistently identified as particularly difficult for healthcare workers are resource-limited settings and remote or rural postings—both common in international health deployments [14]. Stress in these environments can lead to serious personal consequences, including chronic fatigue, substance use, psychological distress, and suicidal thoughts [15, 16]. Such risks are often heightened when individuals are physically isolated from their usual support networks of family, friends, and home communities.

Global health assignments for medical and nursing professionals encompass diverse opportunities, frequently placing individuals in settings vastly different from their home environments. While these professionals rely on their expertise to bridge cultural and clinical gaps, preparation programs offered by academic and nongovernmental organizations often target short-term trainees rather than long-term embedded practitioners [17].

Drawing on this perspective and informed by core academic metrics such as Principles of Surgery exam performance, we developed a customized questionnaire for our study. At the same time, scholars such as Kiran Mith [18] et al. stress the importance of better understanding healthcare workers who face culture shock, stress, and other mental health difficulties. In the Australian context, research [19] into improving cultural adaptation offers valuable insights for reducing staff turnover and enhancing the quality of healthcare in remote regions.

Our findings indicate that the average scores in the Principles of Surgery course among international students showed minor fluctuations across three academic years, recorded as 85.0, 85.25, and 82.1, respectively. While students from Pakistan maintained relatively stable academic performance, their

counterparts from India and Nepal exhibited a declining trend over the two-year period.

Logistic regression analysis revealed several factors significantly associated with higher examination scores. These included younger age, female gender, active class participation, opting out of Chinese dietary options, forming friendships with Chinese individuals, and regular engagement in extracurricular reading.

A preference for self-prepared meals over Chinese cuisine—particularly observed among female students—correlated with better surgical academic performances. This may reflect greater autonomy and adaptability. Furthermore, consistent reading habits supplemented students' in-class learning. In the 21st century, online academic resources also allowed students to access up-to-date medical knowledge and global perspectives.

Establishing friendships with Chinese students who had prior international experience provided additional academic and cultural advantages. These relationships helped international students navigate the Chinese educational system more effectively, improve their language proficiency, and adapt more readily to cultural differences.

Conclusion

Our findings highlight the need for further study on culture shock for professional medical students. Future efforts should be directed toward the better factors that could give help for student mentors who have more focus on developing targeted teaching strategies, facilitating the process of obtaining medical license upon students' return to their home countries, and implementing effective interventions to mitigate the negative impacts of cultural adaptation challenges.

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Competing Interests

The authors have no competing interests to declare.

Author Contributions

All authors had access to the data used in this research study. All authors had a role in analyzing the data collected and in writing this manuscript. The authors in this publication are solely responsible for the analysis reflected in this publication.

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