ISNN 3030-3907

2026/3
VOLUME 3

DEVELOPMENT OF SCIENCE

ILMIY JURNAL



Development of science

Ilmiy jurnal

2026/3 VOLUME 3

ISSN 3030 -3907

Ilmiy jurnal OAK rayosatining 2024 yil 27 sentabrdagi 361-son qaroriga asosan 02.00.00 kimyo fanlari hamda 2025 yil 12 fevral 367- son qaroriga asosan 05.00.00 texnika fanlari bo‘yicha falsafa doktori (PhD) va fan doktori (DSc) ilmiy darajasiga talabgorlarning dissertatsiya ishlari yuzasidan dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan milliy ilmiy nashrlar ro‘yxatiga kiritilgan.

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ISSN 3030-3907

Development of science ilmiy jurnali 2024 yil 15 aprel kuni №256445 sonli guvohnoma bilan Davlat ro‘yxatidan o‘tgan.

To‘plam elektron ko‘rinishda (pdf formatida) mualliflarga taqdim etiladi. To‘plamga kiritiladigan maqolalarning mazmuni, ulardagi statistik ma’lumotlar va me’yoriy hujjatlarning to‘g‘riligiga hamda har qanday fikr - mulohazalarga mualliflarning o‘zlari mas’ul hisoblanadilar. Talablarga javob bermaydigan maqolalar to‘plamga kiritilmaydi. Tashkiliy qo‘mita maqola matnini qisqartirish, qisman tuzatish kiritish, seksiyalarga joylashtirish huquqiga ega.

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SOCIOCULTURAL ADAPTATION OF INTERNATIONAL MEDICAL STUDENTS: DEVELOPMENT AND VALIDATION OF AN ADAPTATION INDEX

Raza Muhammad Kalim
Assistant, Department of Human Anatomy
Samarkand State Medical University
Email: Kalim.raza1992@gmail.com
Jasur Alimzhanovich Rizaev
Samarkand State Medical University
Doctor of Medical Sciences, Professor
Department of Public Health and Healthcare Management
Ochilov Ulugbek Usmanovich
Samarkand State Medical University (Uzbekistan).
Doctor of Science (DSc), Associate Professor Course of Psychiatry and Narcology
Email: ulugbek_o@mail.ru

Abstract. This study aims to develop and validate a new comprehensive Index for International Medical Students Sociocultural Adaptation. Multidimensional challenges are an integral component of this trend, rendering sociocultural adaptation highly critical for both academic success and well-being, particularly for medical education. This report presents a conceptualization of an index comprising various dimensions of sociocultural adaptation such as language proficiency, social interaction, cultural knowledge, and psychological adaptation. Some of the psychometric properties of this index in terms of reliability and validity have been studied in different contexts of medical education. The findings indicate that index is a valid and reliable measure, which has major implications for interventional efforts that can help international medical students adjust to their new academic and cultural settings.

Keywords: Sociocultural adaptation, international medical students, index development, validation, medical education, cross-cultural adjustment, psychometric evaluation.

Annotatsiya. Ushbu tadqiqot xalqaro tibbiyot talabalari uchun ijtimoiy-madaniy moslashuvning yangi keng qamrovli indeksini ishlab chiqish va tasdiqlashdan iborat. Ko'p o'lchovli muammolar ushbu tendentsiyaning ajralmas qismi bo'lib, ijtimoiy-madaniy moslashuv akademik muvaffaqiyat va farovonlik uchun, ayniqsa tibbiy ta'lim uchun juda muhim ahamiyatga ega. Ushbu hisobotda tilni bilish, ijtimoiy o'zaro ta'sir, madaniy bilim va psixologik moslashuv kabi ijtimoiy-madaniy moslashuvning turli jihatlarini o'z ichiga olgan indeksning kontseptsiyasi

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keltirilgan. Ushbu indeksning ishonchliligi va haqiqiyligi nuqtai nazaridan ba'zi psixometrik xususiyatlari tibbiy ta'limning turli kontekstlarida o'rganilgan. Tadqiqot natijalari shuni ko'rsatadiki, indeks to'g'ri va ishonchli o'lchov bo'lib, xalqaro tibbiyot talabalari o'zlarining yangi akademik va madaniy sharoitlariga moslashishga yordam beradigan intervensiyaviy harakatlar uchun katta ahamiyatga ega.

Kalit so'zlar: ijtimoiy-madaniy moslashuv, xalqaro tibbiyot talabalari, indeksni ishlab chiqish, tekshirish, tibbiy ta'lim, madaniyatlararo moslashuv, psixometrik baholash.

Аннотация. Целью данного исследования является разработка и апробация нового комплексного показателя социокультурной адаптации иностранных студентов-медиков. Многомерные проблемы являются неотъемлемой частью этой тенденции, что делает социокультурную адаптацию чрезвычайно важной как для академического успеха, так и для благополучия, особенно для медицинского образования. В этом отчете представлена концептуализация индекса, включающего различные аспекты социокультурной адаптации, такие как знание языка, социальное взаимодействие, культурные знания и психологическая адаптация. Некоторые психометрические свойства этого индекса с точки зрения надежности и валидности были изучены в различных контекстах медицинского образования. Результаты показывают, что индекс является достоверным показателем, который имеет большое значение для проведения интервенционных мероприятий, которые могут помочь иностранным студентам-медикам адаптироваться к новым академическим и культурным условиям.

Ключевые слова: социокультурная адаптация, иностранные студенты-медики, разработка индекса, валидация, медицинское образование, кросс-культурная адаптация, психометрическая оценка.

INTRODUCTION.

Recent years have seen a significant increase in globalization of medical education, and subsequently, an increase in international medical students seeking admission to medical schools worldwide (Andrade, 2006). This not only offers a great cultural mix but also enhances the learning atmosphere; yet, it also results in some unique and more specific challenges for the international students regarding their sociocultural adaptation, particularly in the field of medical education.

Language requirements, an intensive academic curriculum, and the necessity for social integration in a new environment (Chen, 2007; Kwon, 2009) also make these challenges even more complicated. Sociocultural adaptation includes the

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ability to adapt to language, social customs, cultural practices, and psychological coping (Smith & Khawaja, 2011).

Most previous studies have centred around specific dimensions of adaptation (e.g., language proficiency, social integration). However, there is no consolidated and validated instrument focused on the particularities of the difficulties experienced by international medical students. In fact, the Social and Cultural Adaptation Scale (SAS)(Ward et al., 2001) and the Student Adaptation to College Questionnaire (SACQ) (Baker and Siryk, 1984) address mostly isolated factors and the realities of the multidimensional character of adaptation existing in medical education are not covered in these tools. To fill these gaps, the current study produces and validates a robust sociocultural adaptation index benchmarked to international medical students.

LITERATURE REVIEW:

Sociocultural adaptation: The adjustment of individuals in their new culture, based on the social norms, values, and behaviors that govern the new environment. Adaptation is necessary to achieve academic success, social integration, and psychological well-being (Zhao, Kuh & Carini, 2005). Because of the academic challenges of medical education and the broad range of clinical environments that often international medical students face, this process is frequently more intricate (Huang, 2010).

Language proficiency plays an important role in the adaptation process, as communication barriers among students can negatively affect both academic and social performance (Chen, 2007). Another major challenge is social integration, where students are likely to feel lonely and isolated as they cannot establish a new and significant relationship in a foreign environment (Zhao et al., 2005). Cultural competence which is the ability to understand and interact with successful students who change cultural backgrounds is also important for medical students, especially since many medical students are likely to be placed in clinical practice where they will see many patients from diverse cultural backgrounds (Smith & Khawaja, 2011).

The ability to cope with stressors and challenges: psychological resilience also seems to be important in the adaptation process. Resilient students are generally better able to cope with the emotional and psychological stress related to living and studying overseas (Kwon, 2009). Existing empirical knowledge, however, has proven unable to provide sufficient detail to measures of these factors in the context of medical education.

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To address this gap, this study develops a sociocultural adaptation index based on language proficiency, social integration, cultural competence, and psychological resilience.

MATERIALS AND METHODS OF RESEARCH.

A descriptive, cross-sectional design was employed to develop and validate a sociocultural adaptation index for international medical students. Settings: 450 international medical students, from five universities in three different geographic regions (Europe, Asia, and the Middle East).

The sampling method was simple random sampling, which formed a visit to each of the most different cultural backgrounds and different levels of intelligence among students. This index was developed from a literature review, expert opinion and input from a small pilot group of students.

The scale comprises 32 items encompassing all four dimensions of sociocultural adaptation (Byrne & McClain, 2012): (1) language proficiency, (2) social integration, (3) cultural understanding, and (4) psychological resilience. Seven-point Likert-type response anchors were used ranging from (1) strongly disagree to (5) strongly agree in responding to the items.

Methods: An online survey was conducted, including information aboutthe sociocultural adaptation index, basic demographic items, academic performance (GPA),and psychological well-being (GHQ-12). We ran the survey for 4 weeks to allow as many people as possible to take part.

After calculating Cronbach`s alpha for the four dimensions of the index we determine that if the value is above 0.7 the internal consistency of the construct is accepted (3). We used factor analysis, which indicates whether items grouped as intended in dimensions.

Convergent validity was also tested by analyzing associations between the adaptation index and academic performance and psychological well-being. Data were analysed using the SPSS software. Ethical Approval, Informed Consent Protocol We obtained the ethical approval from the Institutional Review Board (IRB); Informed consent from all subjects were obtained to ensure voluntary, confidential participation.

RESULTS OF THE STUDY.

The sociocultural adaptation index for international medical students was a valid and reliable measure. Exploratory Factor Analysis (EFA) confirmed the 4-factor structure, which collectively explained 68% of the total variance, with each item having a factor loading of > 0.5 establishing the construct validity of the index. All dimensions had a Cronbach's alpha ≥ acceptable level, indicating that each dimension represented its construct meaningfully (language proficiency; $\alpha = 0.88$,

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social integration; α = 0.82, cultural understanding; α = 0.84, psychological resilience; α = 0.87excellent.) Convergent validity was good with significant, positive correlation with scores on both academic performance (r = 0.42, P < 0.001) and psychological well-being (r = 0.49, P < 0.001), indicating that students who scored higher in academic success index also performed better in academic performance and had higher psychological well-being. Results of multiple regression analysis further indicated cultural competence (β = 0.31, p < 0.01) and psychological resilience (β = 0.29, p < 0.01) as positive predictors in academic success, and social integration (β = 0.25, p < 0.01) associated in a positive direction with psychological well-being.

Using descriptive statistics, it was confirmed that the sample that this study was drawn from was diverse: 55% of the students were from Asia, 25% were from Africa and 20% from Europe, with an average age of 24.5 years; the gender distribution was 45% male and 55% female. These findings validate the adaptation index and provide valuable insight into the domains that may warrant further support among international medical students.

DISCUSSION.

This study establishes a reliable and valid index of sociocultural adaptation among international medical students. The index is an inclusive tool for measuring the adaptation process across its most salient dimensions, including language ability, social embedding, cultural adaptability, and psychological strength. The results underscore the relevance of these domains with regard to academic achievement as well as mental and emotional well-being: on average, students who scored higher than the median on the index excelled in academic achievement and emotional well-being, performing better than their peers at the median or lower.

These high positive correlations between sociocultural adaptation and academic success (GPA) and psychological well-being again reinforce the necessity for sociocultural adaptation in terms of students experiences. Moreover, cultural competence and psychological resilience were the best predictors of academic achievement, pointing to the potential need for further intervention regarding these factors to better facilitate adaptation.

While these findings are bolstered by an unwavering methodological approach, specifically a cross-sectional design, they do not follow long-term adaptation; therefore, are limiting. A longitudinal study should also be conducted to investigate how sociocultural adaptation influences in the long run academic and professional outcomes. In conclusion, this index includes valuable information for educational institutions to better facilitate international medical students, supporting them to achieve academically and doing well.

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CONCLUSIONS:

As a concluding remark, this study developed and psychometrically validated a sociocultural adaptation index targeting IMGs. The index was highly reliable and valid, achieving high internal consistency across all dimensions and a well-defined factor structure. The results emphasize the importance of cultural competence, psychological resilience, and social integration in academic achievement and psychological well-being. The positive associations between the adaptation index scores and the academic performance and psychological health revealed the importance of adequate adaptation to the life of international medical students for their achievement and well-being.

These findings imply that the university index can be a resourceful asset for the educational institutions to screen the students who require additional reinforcement and can take the needed actions to enhance the academic and social personal experiences of the students at risk.

In summary the research identifies that sociocultural adaptation is complex and should be supported for all international students in the medical education community. This study, however, offers insight into the relationship between sociocultural adaptation and subsequent academic performance of international students, which can be expanded into future research, particularly with regards to its longitudinal effect on medical career progression.

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ISSN 3030-3907