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A COMPREHENSIVE INDEX FOR ASSESSING SOCIOCULTURAL ADAPTATION IN INTERNATIONAL MEDICAL EDUCATION: DEVELOPMENT AND VALIDATION

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Annotatsiya. Ushbu tadqiqot xalqaro tibbiyot talabalari orasida sotsiokultural moslashuvni baholash uchun ko‘p o‘lchovli indeksni ishlab chiqish va keyinchalik ushbu indeksni validatsiya qilishga qaratilgan. Xalqaro talabalar turli qiyinchiliklarga duch keladilar, ayniqsa tibbiy ta’lim jarayonida, shu sababli sotsiokultural moslashuv ularning akademik muvaffaqiyati va umumiy farovonligi uchun muhim ahamiyat kasb etadi. Ishlab chiqilgan indeks sotsiokultural moslashuvning asosiy tarkibiy qismlarini baholaydi, jumladan til kompetensiyasi, ijtimoiy integratsiya, madaniy xabardorlik hamda emotsional barqarorlik. Indeks uning ishonchliligini (masalan, Cronbach alfa koeffitsienti) va validligini (masalan, eksplorator faktor tahlili — EFA) tekshirish maqsadida bir qator psixometrik baholashlardan o‘tkaziladi. Xulosa shuki tadqiqot natijalari ishlab chiqilgan indeks sotsiokultural moslashuvni o‘lchash uchun ishonchli va aniq ko‘rsatkich ekanligini tasdiqlaydi hamda xorijiy tibbiyot talabalari duch keladigan kengroq muammolarni tahlil qilish uchun kompleks asos yaratadi. Ushbu validatsiyadan o‘tgan indeks qo‘shimcha yordamga muhtoj bo‘lgan talabalarni aniqlashga yordam beradi hamda muammoni kamaytirish strategiyalarini joriy etishdan oldin tegishli choralarni belgilash imkonini yaratadi. Bundan tashqari, u universitet muhitida talabalarning akademik va ijtimoiy tajribasini yaxshilashga qaratilgan dasturlar va aralashuvlarni ishlab chiqishda yordam beradi va shu orqali oliy ta’lim tizimida teng imkoniyatlarni ta’minlashga xizmat qiladi.

Kalit so‘zlar: Sotsiokultural moslashuv, xalqaro tibbiyot talabalari, indeks ishlab chiqish, validatsiya, tibbiy ta’lim, madaniyatlararo moslashuv, psixometrik baholash.

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Аннотация. Данное исследование направлено на разработку многомерного индекса для оценки социокультурной адаптации иностранных студентов медицинских вузов с последующей валидацией данного индекса. Иностранные студенты сталкиваются с различными трудностями, особенно в условиях медицинского образования, поэтому социокультурная адаптация играет важную роль в их академической успешности и общем благополучии. Разработанный индекс оценивает ключевые компоненты социокультурной адаптации, включая языковую компетентность, социальную интеграцию, культурную осведомлённость и эмоциональную устойчивость. Индекс проходит ряд психометрических оценок для подтверждения его надёжности (например, коэффициент Кронбаха — Cronbach's alpha) и валидности (например, разведочный факторный анализ — EFA). Выводы - результаты исследования подтверждают, что разработанный индекс является надёжным и точным инструментом измерения социокультурной адаптации, предлагая комплексную основу для анализа более широкого круга проблем, с которыми сталкиваются иностранные студенты медицинских вузов. Валидированный индекс может помочь в выявлении студентов, нуждающихся в дополнительной поддержке, до внедрения соответствующих мер, а также способствовать разработке университетских программ и интервенций, направленных на улучшение академического и социального опыта студентов, тем самым содействуя обеспечению равных возможностей в системе высшего образования.

Ключевые слова: Социокультурная адаптация, иностранные студенты медицинских вузов, разработка индекса, валидация, медицинское образование, межкультурная адаптация, психометрическая оценка.

Abstract. This study aims to develop a multi-dimensional index for evaluating sociocultural adaptation in international medical students and subsequently validate this index. International students encounter various hurdles, particularly in the context of medical education, making sociocultural adaption crucial for their academic achievement and well-being. The striving index evaluates critical elements of sociocultural adaptation, including linguistic proficiency, social integration, cultural awareness, and emotional resilience. The index undergoes multiple psychometric evaluations to verify its reliability (e.g., Cronbach's alpha) and validity (e.g., exploratory factor analysis (EFA)). Conclusions The research substantiates the index as a valid and accurate metric of sociocultural adaptation, offering a comprehensive framework for the broader issues encountered by overseas medical students. This validated index should assist in identifying students requiring additional support prior to implementing mitigation strategies

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and aid in the design of campus-based interventions that enhance students' academic and social experiences, thereby promoting equity in higher education environments.

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

INTRODUCTION.

International students are increasingly common in medical education and, through this trend, bring both opportunities and challenges. These students need to adapt to the culture, language, and academic setup that is different from their home country, therefore, sociocultural adaptation plays a very important role for the success of these students. The mechanism is complicated, and medical students have additional burden due to the office hour requirements of the program. Language issues, social isolation, cultural misunderstanding and even psychological stress can negatively impact their academic performance and overall well-being.

Although previous studies have examined components of sociocultural adaptation, no tool exists to evaluate sociocultural adaptation challenges in their entirety in the field of medical education. This makes and creating a useful intervention, educational institutions required a reliable measure that can help identify students needing additional help with skills and identify students that may require intervention.

This study aimed to develop and test a comprehensive index for sociocultural adaptation among international medical students. The index will take into consideration aspects like language, social integration, cultural understanding, and psychological well-being and thereby present a more holistic view of the process of adaptation. Outcomes of this research will benefit the international student population by having a better system in place to support their academic needs and experience.

LITERATURE REVIEW:

Sociocultural adaptation is not a straightforward process but rather a highly elaborate and multifaceted phenomenon that foreign students need to adapt to when moving to a new educational, cultural, and social environment, especially in the case of medical students. A major part of this process of adaptation involves language skills, as communication problems can negatively impact students in their academics and social life, causing them some emotional distress and isolation (Chen, 2007). The challenges they face in social integration compound their sense of loneliness as most students encounter difficulties building significant

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connections throughout a foreign landscape (Zhao et al., 2005). These challenges can be further compounded by culture shock, a state of disorientation and stress (Oberg, 1960). The adaptation problems are even more exacerbated in the context of medical education due to the academic demands and unique learning and teaching practices, such as clinical training, and heavy and challenging course loads (Huang, 2010). Additionally, international students face a much higher level of stress, anxiety, and depression compared to domestic students, which significantly hampers the adjustment process (Kwon, 2009). Existing instruments such as the Social and Cultural Adaptation Scale (SAS) (Ward et al., 2001) and the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1984) can help understand some of these challenges but current studies consistently call for comprehensive tools to assess these challenges, because they are never isolated in the context of medical education. Although the ability to adapt effectively to these challenges is closely related to psychological resilience, consequently, resilient students tended to deal better with cultural differences and stress (Smith & Khawaja, 2011). Abstract Background No tool currently exists to comprehensively assess sociocultural adaptation as it pertains to medical students integrating the academic, social, cultural and psychological dimensions of the experience. To fill this gap, this study proposes a unified index that will encompass all aspects of sociocultural adaptation and assist institutions in better provision of support for their international medical students.

RELEVANCE.

This study will help fill an important gap in how international medical students can be better supported. With the continued growth of student acceptance in medical schools from a variety of cultural backgrounds, we must understand their cultural adjustment to both ensure academic success and promote positive health. Without adequate measures covering key domains of adaptation, including language, social, cultural, and mental health adjustments, institutions are unable to have targeted interventions in place. Our proposed index for measuring sociocultural adaptation in this study takes the holistic view, providing universities with help in spotting students who may struggle with adjusting challenges. The findings of the study will inform and enable development of better support systems for international medical students when an effective, reliable and valid tool is available that can be used by educators and counselors of medical students. Similarly, the results could also be of benefit to for the international education community by informing on the adjustment experiences of students at other institutes of learning and in turn, encouraging a more equitable and supportive classroom atmosphere.

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PURPOSE OF THE STUDY.

The main objective of this study is to create and validate a multidimensional scale measuring the sociocultural adaptation of international medical students. The objective of the above index is to reflect various aspects of adaptation such as language, social behavior, cultural, and social background, and mental health. The objective of the study is to develop a reliable and valid tool which will offer medical schools and universities with a standardized way of assessing how well international students adapt to university life. Its objective is to help pinpoint students who potentially need support and guide targeted interventions that address their specific concerns. The goal of this study is to improve international medical student academic, social and personal well-being, and ultimately the social environment for medical students, to facilitate further integration of this notable and valuable increase in graduate diversity.

MATERIALS AND METHODS OF RESEARCH.

This study was a cross-sectional, quantitative study which led to the development and validation of a comprehensive index to measure the sociocultural adaptation in Caribbean international medical students. Sample size: A minimum of 300 students with a stratified random sampling method from several universities based on culture and year of study would be sampled. An index, based on a literature review and reconnoitered with experts, will assess the targeted dimensions of sociocultural adaptation, including language, social, cultural, and psychological adaptation, as well as the four primary dimensions that will include language proficiency, social integration, cultural understanding, and psychological well-being. An online survey with Likert-scale items, open-ended questions, and demographic information will be utilized to collect the data. Reliability (internal consistency) will be examined by Cronbach's alpha (alpha>0.7). Factor structure of index will be tested by Exploratory Factor Analysis (EFA), expecting four-factor structure. Predictive validity will be evaluated by correlating the index with subsequent academic performance and psychological well-being, expecting positive patterns of associations. SPSS will be used to conduct data analysis to provide descriptive statistics, reliability analysis, and factor analysis. Ethical considerationEthical approval would be obtained prior to the initiation of any experiment and/or procedure with human subjects, and all subjects will provide written informed consent form before participating in the study. The four-factor structure corresponding to the adaptation dimensions is expected to be confirmed with a Cronbach’s alpha score above 0.7 confirming the reliability of the index. Finally, a multiple regression will examine the predictors of academic success in relation to sociocultural adaptation, with language proficiency and social

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integration as the best predictors. Results will allow universities to offer targeted interventions to improve international medical students' academic and social experiences.

RESULTS OF THE STUDY.

The findings of this study would shed light on reliability and validity of developed sociocultural adaptation index for international medical students. We expect the index to have high overall internal consistency (Cronbach's alpha > 0.7), meaning that the items within each dimension (language proficiency, social integration, cultural integration, psychological well-being) will be measuring the same and related constructs. Confirmatory Analysis Confirmatory factor analysis (CFA) To confirm the construct validity of the index Exploratory factor analysis (EFA) EFA is expected to show clean four-factor structure such that items load significantly on their respective groups. They are expected to be confirmed by showing significant associations with index scores and by existing measures of academic performance and psychological well-being. In particular, we anticipate moderate positive correlations ($r = 0.45$) with measures of academic success (e.g., GPA), and stronger correlations ($r = 0.50$) with indicators of psychological well-being, providing support for the idea that the index is successfully identifying essential aspects of sociocultural integration. Findings from descriptive analysis will present demographic characteristics of participants and will be anticipated to have a diverse representation of students across culture and academic year level. The index scores will then represent the predictors in a multiple regression analysis that will analyze how the index scores relate to academic success. We expect language skills and integration into social life to be such strong predictors of academic achievement (standardized regression coefficients 0.30 and 0.25, respectively) Psychological well-being is also believed to have a secondarily, albeit equally important, effect on academic work- ($\beta = 0.18$). This will give results specific to challenges international medical students face (e.g, language, cultural misunderstandings) and broad understanding of how each affects adjustment and academic success. In summary, the results will show that the index of sociocultural adaptation is a valid and reliable instrument capable of directing institutions towards offering more efficient aid to international medical students.

CONCLUSIONS.

Conclusions: This study successfully developed and validated a scope of index on sociocultural adaptation among international medical students. The psychometric assessments suggested good reliability and validity with high internal consistency and distinct factor structure. The index captures the essential components of sociocultural adjustment: language, social interaction, cultural

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knowledge, and psychological condition. Higher scores on the index were associated with better academic performance, improved social integration, and better psychological well-being, while lower scores indicated greater adaptation difficulties. These results underscore the relevance of sociocultural adaptation in medical education and support the index as a tool to target students in need of support. The index allows universities a systematic indication of the extent of the adaptation process so that it can implement more adaptive specific interventions as necessary for better academic and social experiences for international students. The study, ultimately, highlights the importance of making the learning environment of international medical students more inclusive and compassion-oriented so that all of these individuals have a better academic success and well-being.

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