



Challenges Faced by High School Students in Thailand When Preparing for Medical School Admissions: A Comparative Study of Regular Thai Programmes and International Schools

Saphol Chanmanee Wong^{1*}, and Pratchayapong Yasri²

¹ Harrow International School Bangkok, Bangkok, Thailand

² Faculty of Science, King Mongkut's University of Technology Thonburi, Bangkok, Thailand

Abstract

This research examines varying levels of educational, motivational, social, and financial challenges perceived by Thai high school students when preparing for medical school admission. Based on a quantitative survey of 100 students attending either a regular Thai school programme or an international school programme, we present their perceived levels of stress, the comparison of the stress levels between students from the two school systems, and the comparison of the stress levels between different grade levels. The paired t-test revealed that the greatest challenge faced by the student participants was related to the educational aspects, followed by motivational, social, and financial aspects. In addition, the independent t-test revealed that Year 12 students exhibited the highest level of perceived stress compared to their high school peers (Year 11 and Year 13). In addition, students enrolled in regular Thai programmes reported a higher level of overall perceived stress than those enrolled in international programmes. The findings suggest that policies and programmes designed to address the educational, motivational, social, and financial challenges of high school students in Thailand to ensure that all students have the opportunity to pursue their academic and professional objectives in the field of medicine.

Keywords: medical school admissions, educational challenges, motivational challenge, social and financial challenges, comparative study

1. Introduction

As healthcare demands increase and more physicians are produced than ever before, interest in health professions has reached an unprecedented level. This implies that more students than ever are putting their attempt to apply to medical schools. As a result, the number of annual applicants is growing faster than the number of available medical school seats (McGrath, & Ghera, 2016). In the US, the number of medical school applicants increased by nearly 15 percent between the 2013–2014 and 2022–2023 academic years, according to data published by The Association of American Medical Colleges (AAMC). Specifically, the number of applicants rose from 48,014 to 55,188, with only around 40% acceptance rate during the 2013–2014 and 2022–2023. Not only in the US, medical school admissions are known for their competitiveness and complicated application processes worldwide. Although admission requirements vary by country, it appears that applicants are evaluated based on their academic achievements, personalities, attitudes, and skills, in addition to their aptitude skills as measured by standardised tests. Evidence of academic performance, standardised test scores, extracurricular activities, and personal statements are all common requirements for medical school admissions. Applicants who meet certain criteria are eligible for the final round of selection, which is the interview stage (McManus, 2002).

In Thailand, medical school admissions occur in four distinct phases per academic cycle. The most recent version of the Thai University Central Admission System (TCAS) includes four distinct phases (initial versions can be seen in Kitcharern, 2019). The first round of TCAS typically requires candidates to submit a comprehensive portfolio highlighting their academic achievements and extracurricular activities. Evaluation of the candidate's portfolio and interview performance are used to determine admission eligibility to the candidate's desired university programmes. Although no written examination is required at this stage, universities may have their own student recruitment policies. The second round, also known as the Quota round, is designated for students who meet specific criteria, such as being from a particular region or possessing exceptional abilities. The number of available seats for each university discipline is determined by the policies and requirements of each institution. In the third round, candidates are evaluated based on their performance on the Thai General Aptitude Test (TGAT) or the Thai Professional Aptitude Test (TPAT), as well as their knowledge of seven core subjects from their high school curriculum. Admission decisions for university programmes in this round are based on the candidates' performance on these examinations. The fourth round enables institutions with available seats to conduct their independent entrance exams and evaluation procedures to admit students who were not accepted in earlier rounds. Each institution has the freedom to design its own evaluation criteria for this round.

Focusing particularly on the first round of medical school applications in Thailand, applicants from both regular Thai programmes and international programmes are required to submit a portfolio that includes personal information, academic achievements, hobbies, and recreational activities. Additionally, the portfolio must contain a grade point average (GPA), an English Proficiency Test score (IELTS or TOEFL), and a Biomedical Admission Test (BMAT) score. After submission of the portfolio, candidates must wait to hear whether they have been granted an interview with the medical school. If they are granted an interview, they will need to undergo a multiple mini-interview (MMI) as well as a medical check (Chiddaycha & Wainipitapong, 2021). The MMI evaluates interpersonal and intrapersonal characteristics, and applicants move

through a sequence of interview stations with specific prompts aimed at evaluating communication, collaboration, medical ethics, and other skills. This interview process is considered more reliable than traditional interviews, as it mitigates the influence of subjectivity by combining different interviewers' evaluations of a candidate (Langer et al., 2020). The admissions decision is based on previous activities and interview outcomes, not just GPA (Yasri & Titicharoenrak, 2020).

Generally, formal university announcements call for applicants with specialised talents in English, thus internationally standardised tests are provided as options for candidates to show their results including IELTS or TOFEL. IELTS evaluates a candidate's ability to speak, listen, read, and write in English and gives a score between 1 and 9, while TOEFL evaluates similar skills and awards a score between 0 and 120. In addition, the BMAT is a standardised examination used by universities worldwide to select candidates for degree programmes in medicine, dentistry, biomedicine, and veterinary medicine. The test is divided into three sections: thinking skills, scientific knowledge and applications, and a writing task that requires the test-taker to write a short essay within 30 minutes (Davies et al., 2022). It is important to note that these requirements vary from year to year. Soon in 2024, the BMAT will be discontinued, thus an alternative exam might be taken into consideration for this replacement. Research conducted by the Cambridge Assessment team showed that BMAT scores predicted mean examination marks fairly for all background variables considered, although there were differences in the extent of the quality of performance of applicants, such as institute type and gender (Emery et al., 2010). However, the study by Davies et al. indicated that the BMAT had little predictive validity of future performance and clinical examinations, with sections 1 and 3 performances showing weak evidence of indicative validity for examinations and clinical assessments. In contrast, section 2 scores were a consistent antecedent of medical school written exam scores, although the correlation was mostly minor (Davies et al., 2022).

The medical profession in Thailand is widely regarded as extremely prestigious and honourable. Many parents aspire for their children to become doctors due to the profession's association with financial stability and elevated social status. Furthermore, doctors in Thailand are widely considered subject matter experts and highly esteemed members of society (Mei et al., 2022). It is worth noting that gaining admission to medical schools in Thailand is highly competitive, and those who succeed in this demanding environment are often perceived as hardworking and dedicated (Wainipitapong & Chiddaycha, 2022; Mei et al., 2022). Concerning the journey to become doctors in Thailand, medical students have to study for a total of six years, which is divided into two parts. The first part, which is from year 1 to 3, is spent in the classroom, while the second part, from year 4 to 6, is spent in the hospital. During the first year, students learn basic sciences, including chemistry, physics, biology, as well as English and Thai languages. Medical topics are introduced in the second year, depending on the curriculum of each university. In the third year, students learn about abnormal functions of the human body. They learn about various diseases and how they affect the body, what symptoms they cause, which microorganisms cause the diseases, and what medications are used to treat them. In the fourth to sixth year, students experience life in the hospital, also known as clinical years. In the fourth year, students start learning from real patients. They take medical histories, perform physical examinations, and write reports on the diseases they encounter. In the fifth year, students learn about various specialties in medicine. In the sixth and final year, also

known as the externship, students are responsible for patient care. They take medical histories, perform physical examinations, prescribe medications, and even assist in surgeries. They are referred to as "Externs," and are like real doctors. By the end of the six years, students are prepared to graduate and begin their careers as doctors.

In order to enter the medical journey as medical students, high school students face numerous challenges when preparing for medical school admissions, including educational, motivational, social, and financial factors. To focus more on the educational challenges, during the road to medical school, students must demonstrate a solid scientific foundation in the rigorous academic curriculum, which includes biology, chemistry, physics, and mathematics. The amount and complexity of study material can be overwhelming, requiring effective time management and study techniques (Supe & Burdick, 2006). Taking the first round of admission in Thailand into consideration, students have to prepare for the English proficiency tests which may well be beyond the level of daily use by average Thai native speakers who enrol in regular Thai programmes. Also, the preparation for BMAT requires a great deal of effort to work on both scientific knowledge and thinking skills. Turning to motivational challenges, the demanding nature of the admission procedure, combined with the required long-term dedication and commitment, can lead to feelings of self-doubt, exhaustion, and stress, on top of academic pressure. Maintaining a high level of motivation throughout the preparation phase is critical. Staying focused and motivated throughout the admissions process necessitates perseverance, self-belief, and goal orientation. Furthermore, social challenges arise as a result of the need to balance personal relationships, peer competition, and a support network during the admissions process. Students may feel isolated as a result of their intense study schedules, limited social interactions, and academic pressure (Kusurkar et al., 2011). Last but not least, some students preparing for medical school admissions may face significant financial challenges. Extra costs may have to be allocated for the exam costs, some of which can be taken for multiple times, not to mention additional fees that students have to spend for tutoring classes and extra materials (Kane, 2010). Thus, understanding and overcoming these challenges is critical to the success and well-being of medical school applicants. Interventions and support systems that emphasise academic support, motivation, social connections, and financial aid can be implemented by educators and policymakers.

Evidence reveals in the literature that these forms of challenges appear across nations and disciplines. For example, the two-year preparation for the national university entrance exams in Greece has been shown to be an arduous period for high school students physically and emotionally. The study shows that 442 senior high school students during the COVID-19 lockdown exhibited a significant increase in rates of depression and anxiety while preparing for university admissions (Giannopoulou et al., 2021). Likewise, Deb, Strodl & Sun (2015) investigate academic stress and mental health among Indian high school students and explore the associations between psychosocial factors and academic stress. Their survey with 190 students from grades 11 and 12 showed that nearly two-thirds of students experienced stress due to academic pressure, with parental pressure for better academic performance being reported by about 66% of students. Additionally, examination-related anxiety was prevalent in 81.6% of the respondents. Last but not least, a body of research studies confirm the severe impact of academic stress on Chinese students, with a significant number experiencing worry about exams, fear of punishment by teachers, and physical punishment from parents for

academic performance. Zhao, Selman & Haste (2015) highlight the prevalence of a high risk of suicide ideation and attempts among Chinese adolescents due to increased academic pressure. Besides, academic competition in China has resulted in negative consequences for social relationships among peers, leading to feelings of jealousy, distrust, and animosity. These studies across various geographical areas emphasise the seriousness of academic stress in common and its impact on students' mental well-being, urging consideration of strategies to address the challenges posed by academic pressure.

2. Methodology

This study aimed to investigate perceived levels of stress of students attending either a regular Thai school programme or an international school programme, compare their levels of stress, and compare the levels of stress perceived by different grade levels. The study utilised a quantitative research approach using an online survey to obtain statistical evidence for those objectives. The survey included questions related to educational challenges, motivational challenges, social challenges, and financial challenges. Descriptive statistics and t-tests were used for data analysis, with p-values determining the significance level. The data collection process was carried out with ethical considerations including voluntary responses, confidentiality, and anonymity. There were 100 students attending either a regular Thai school programme (43.1%) or an international school programme (56.9%) responded to the questionnaire, including Year 11 (17.6%), Year 12 (28.4%), and Year 13 (40.2%) students in Thailand, while the remaining respondents were those taking a gap year and those currently studying the first-year in a university programme who wished to reapply to enter medical schools. It is also important to note here that there were 18.6% of the respondents who attended an English programme whose responses were combined with those from international schools for data analysis as they shared somewhat similar educational backgrounds. There were 36.3% male and 63.7% female respondents in total.

3. Results and discussion

The results based on an independent t-test was carried out to reveal the differences in levels of stress combining educational, motivational, social and financial factors between students attending regular Thai programmes and those attending international programmes in Thailand. The results indicated that the student respondents held a moderate level of stress. More specifically, regular Thai programme students had a mean stress score of 3.4, slightly higher than the mean stress score of 3.3 for international programme students. However, statistical analysis revealed no significant differences between the two groups (p-value = 0.35) as shown in Table 1.

Table 1. The mean of the overall stress level of regular Thai programme and international programme students and the comparison of the mean of the overall challenges faced using an independent T-test

Educational Programme	Mean of stress level	P-value
Regular Thai	3.4	0.35
International	3.3	

These findings suggest that while there may be a slight variation in stress levels, both groups face comparable levels of stress in their preparation for medical school. The findings highlight the universality of challenges faced by students preparing for medical school. The educational challenge, in particular exam preparations, encompass the rigorous academic curriculum, the pressure to perform well, and the extensive study material. Motivational challenges involve maintaining focus, perseverance, and managing self-doubt. Social challenges may arise from balancing personal relationships, peer competition, and maintaining a support network. Financial challenges include the high cost of education, student loans, and managing expenses. Understanding the challenges faced by medical school aspirants can guide educators and policymakers in developing targeted interventions. By addressing these challenges, institutions can implement strategies to enhance academic support, foster motivation, cultivate social connections, and provide financial assistance. Collaboration between faculty, advisors, and students is crucial to establish a comprehensive support system that nurtures aspiring medical professionals and promotes their success.

In addition to the overall stress level between the two types of school programmes, this study compared the stress levels experienced by Year 11, 12, and 13 students as shown in Table 2. According to the findings, Year 12 students had the highest mean stress score ($x = 3.6$), demonstrating significantly higher stress levels when compared to Year 11 students ($p\text{-value} = 0.03$) and Year 13 students ($p\text{-value} = 0.01$). Conversely, Year 11 students experienced the lowest stress levels ($p\text{-value} = 0.03$) when compared to Year 12 students. However, the $p\text{-value}$ for the comparison between Year 11 and Year 13 students was 0.87, indicating no statistical difference and suggesting that stress levels of Year 11 and Year 13 students are similar. To focus more on each type of challenge, Year 12 students demonstrated the highest mean stress score in the academic challenge ($x = 4.0$), significantly higher than Year 13 students ($p\text{-value} = 0.02$) and relatively higher than Year 11 students ($p\text{-value} = 0.17$). However, there was no statistical difference between Year 13 and Year 11 students in this aspect. In addition, the findings suggest that Year 12 students faced the greatest degree of motivational challenges ($x = 3.7$), although the difference was not statistically significant when compared to Year 11 ($p\text{-value} = 0.17$) and 13 students ($p\text{-value} = 0.06$). Finally, with regards to social and financial challenges, the statistical analysis revealed that these challenges faced by these three groups were statistically indifferent, with all $p\text{-values}$ in this aspect being greater than 0.05.

Table 2. The mean of each challenge faced by each year group

Challenges	Year 11	Year 12	Year 13
Educational	3.3	4.0	3.5
Motivation	3.3	3.7	3.3
Social and Financial	2.8	3.2	3.0
Overall	3.1	3.6	3.3

The results highlight the distinct variations in stress levels among Year 11, 12, and 13 students. Year 12 students experience the highest levels of stress, potentially attributed to the pressures of academic expectations, future planning, and upcoming examinations. Year 11 students, on the other hand, exhibit comparatively lower stress levels, which may be influenced by their

relatively new transition to senior secondary education. The similarity in stress levels between Year 11 and Year 13 students suggests that the final year of secondary education may present comparable challenges and demands. By that time, many of Year 13 students may probably have scores and achievements ready for university admissions, not to mention that many may have been offered from the early admission round by various universities. Taking the findings into consideration, understanding the discrepancies in stress levels among different year groups can guide educators and policymakers in implementing targeted interventions to support students at each stage of their academic journey. Increased support, stress management workshops, and personalised guidance can be beneficial for Year 12 students who experience the highest stress levels. Additionally, preventative measures can be employed for Year 11 students to maintain their lower stress levels and support them through their transition. Year 13 students may benefit from strategies to sustain their stress levels and ensure a smooth transition into higher education.

Table 3. The mean of the challenges faced by regular Thai programme and international programme students

Challenges	Mean Regular Thai Programme Students	Mean of International Programme Students
Educational	3.7	3.6
Motivational	3.4	3.3
Social and Financial	3.1	2.9

The final analysis sought to understand whether the levels of stress in these three forms of challenges differ between students from regular Thai programmes and international programmes. As shown in Table 3, students attending both programmes reported similar stress levels, with a mean stress score of 3.7 for the Thai programme and 3.6 for the international programme (p -value = 0.84). Likewise, regarding motivational challenges, students from both programmes experienced comparable stress levels, with a mean stress score of 3.4 for the Thai programme and 3.3 for the international programme (p -value = 0.47). Finally, although students attending international programmes appeared to encounter a lower level of stress when it comes to social and financial challenges, with a mean score of 2.9, this number was not statistically different from that of students attending regular Thai programmes whose mean score was 3.1 (p -value = 0.47). The findings indicate that students in both the regular Thai programme and the international programme experience comparable levels of educational and motivational stress, which imply that universal experience of educational, motivational, as well as social and financial challenges exists of their programme.

4. Conclusion

In conclusion, this research offers valuable insights into the stress levels and obstacles faced by medical school applicants. Students enrolled in regular Thai programmes and students enrolled in international programmes experience comparable levels of stress in relation to educational challenges, motivational challenges, social challenges, and financial challenges. Year 12 students display the maximum levels of stress, especially during examinations and motivational challenges, whereas Year 11 students display the lowest levels of stress. Year 13

students' stress levels are comparable to those of Year 11 students. Supporting Year 12 students in managing their academic responsibilities and future planning requires targeted interventions. It is essential to implement support mechanisms and interventions for both programmes in order to resolve their stressors effectively. Enhancing academic support, encouraging motivation, nurturing social connections, and providing financial aid are essential strategies for medical school applicants. Collaboration between faculty, advisors, and students is essential for the development of a comprehensive support system. To continue assisting students in coping with stress and navigating their academic voyage, additional research and interventions are required. By effectively addressing these obstacles, educational institutions can equip students with the skills and resources necessary for success in a medical career.

References

- Chiddaycha, M., & Wainipitapong, S. (2021). Mental health among Thai medical students: Preadmission Evaluation and Service Utilization. *Health Science Reports*, 4(4).
- Dabaliz, A.-A., Kaadan, S., Dabbagh, M. M., Barakat, A., Shareef, M. A., Al-Tannir, M., Obeidat, A., & Mohamed, A. (2017). Predictive validity of pre-admission assessments on medical student performance. *International Journal of Medical Education*, 8, 408–413.
- Deb, S., Strodl, E., & Sun, H. (2015). Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Science*, 5(1), 26-34.
- Emery, J. L., Bell, J. F., & Vidal Rodeiro, C. L. (2010). The Biomedical Admissions Test for medical student selection: Issues of fairness and Bias. *Medical Teacher*, 33(1), 62–71.
- Giannopoulou, I., Efstathiou, V., Triantafyllou, G., Korkoliakou, P., & Douzenis, A. (2021). Adding stress to the stressed: Senior high school students' mental health amidst the COVID-19 nationwide lockdown in Greece. *Psychiatry research*, 295, 113560.
- Kane, T. J. (2010). *The price of admission: Rethinking how Americans pay for college*. Brookings Institution Press.
- Kitcharern, N. (2019). Reality and Rhetoric of Changes in Thailand's University Admission Policy, 1999-2017. *Journal of Social Sciences Naresuan University*, 15(1), 15_117-138.
- Kusurkar, R. A., Ten Cate, T. J., Van Asperen, M., & Croiset, G. (2011). Motivation as an independent and a dependent variable in medical education: a review of the literature. *Medical teacher*, 33(5), e242-e262.
- Langer, T., Ruiz, C., Tsai, P., Adams, U., Powierza, C., Vijay, A., Alvarez, P., Dallahan, G. B., & Rahangdale, L. (2020). Transition to multiple Mini Interview (MMI) interviewing for medical school admissions. *Perspectives on Medical Education*, 9(4), 229–235.
- McGrath, S., & Ghera, D. (2016). Building towards precision medicine: empowering medical professionals for the next revolution. *BMC medical genomics*, 9(1), 1-6.
- McManus, I. C. (2002). Medical school applications—a critical situation: The supply of medical students may not meet the demands of medical school expansion in the United Kingdom. *British Medical Journal*, 325(7368), 786-787.
- Mei, A., Gao, D., Jiang, J., Qiao, T., Wang, F., & Li, D. (2022). The medical education systems in China and Thailand: A comparative study. *Health Science Reports*, 5(6), e826.
- Supe, A., & Burdick, W. P. (2006). Challenges and issues in medical education in India. *Academic Medicine*, 81(12), 1076-1080.

- Wainipitapong, S., & Chiddaycha, M. (2022). Assessment of dropout rates in the preclinical years and contributing factors: a study on one Thai medical school. *BMC Medical Education*, 22(1), 1-8.
- Yasri, P., & Titicharoenrak, N. (2020, September 10). *A less stressful, yet effective procedure for admissions to medical schools in Thailand - the IAFOR research archive*. The IAFOR Research Archive
- Zhao, X., Selman, R. L., & Haste, H. (2015). Academic stress in Chinese schools and a proposed preventive intervention program. *Cogent Education*, 2(1), 1000477.

Appendix A: 5-Likert scale questionnaire items

Educational challenges

1. I feel overwhelmed by the amount of content I need to prepare for medical school.
2. The number of exams required for medical school admission is overwhelming for me.
3. I find the content in the exams for medical school admission challenging.
4. I have difficulty connecting the material taught in school with the content in the medical school admission exams.
5. I have doubts about the quality of the medical school admission exams.
6. I struggle with time management while preparing for medical school admission.

Motivational challenges

1. I feel stressed about meeting the academic demands of preparing for medical school.
2. I feel lonely or isolated while preparing for medical school.
3. I feel like my mental health is suffering due to the stress of preparing for medical school.
4. I struggle to keep up my self-confidence while preparing for medical school.
5. I struggle to maintain a positive mindset while preparing for medical school.
6. I struggle to stay motivated in my preparations for medical school admission.

Social and financial challenges

1. I struggle to balance my social life with the demands of preparing for medical school.
2. I struggle to find a supportive community of peers who understand the demands of preparing for medical school.
3. I struggle to find time for extracurricular activities or hobbies due to the demands of preparing for medical school.
4. I worry about my ability to afford extra fees for tutorial courses to prepare for medical school exams.
5. I worry about my ability to manage the cost of purchasing materials for revising for medical school exams.
6. I worry that my social skills may suffer due to the focus on academics and preparing for medical school.