



The Effect of Stress on the Physical Health of High School Students between Grades 10-12 in Thailand

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ABSTRACT: Currently, teenagers are under high social pressure. This affects stress levels and can have a negative effect on physical health. Therefore, we should study this matter to find a way to reduce stress levels in high school students, especially those in grades 10 through 12. The objectives of this survey research are 1) to study the stress and physical health levels of high school students; 2) to compare the stress levels of high school students in Thailand, focusing on students in grades 10-12, and 3) to study the relationship between stress level and physical health among high school students. The sample group used in the study were students in grades 4-6 in Thai and international schools, with a total of 222 participants. Data were collected using questionnaires and analyzed by valid percentages, standard deviation, mean, one-way ANOVA test (F-test), independent sample (t-test), and Pearson's correlation. The results of this research found that high school students report high levels of stress on average and moderate levels of physical health problems. When comparing the stress levels and physical health problems of students classified by educational level and type of school, it was found that there was no difference in education level or type of school. Still, the assumption that physical health problems are related to stress levels is highly possible. Stress and physical health problems are significantly related at 0.01. Further, this study could be improved in comparison to the effect of stress on physical health in different grades and at every age. This study would help raise awareness among adolescents who are maturing.

KEYWORDS: Physical health, Social pressure, Stress, Thai students

INTRODUCTION

Stress has become an almost common occurrence for adolescents in today's hectic and demanding society. Students in high school, especially those in grades 10 through 12, face a variety of personal, social, and academic obstacles that can cause stress reactions. This is evident in various reports, where social pressures have resulted in an increased level of stress. According to statistics from the Mental Health Hotline Service for the year 2019, it was found that adolescents aged 10-19 years had a high level of stress issues, accounting for 51.36 percent (mahidol.ac.th).

During the crucial stages of growth and development, these challenges, including the process of self-discovery, peer pressure, high expectations, and academic demands, are unavoidable aspects of life. Although some level of stress is an inevitable part of life, chronic or severe stress can have adverse effects on physical health, particularly in high school students who are still in their adolescent years. Statistical data shows that stress can have negative impacts on physical health, leading to conditions such as depression, anxiety disorders, gastric problems, heart diseases, and high blood pressure. Moreover, stress can also affect one's performance at school or work and relationships with others. This is evidenced in a report from (sikarin.com). Therefore, appropriately managing stress is crucial to reducing the risk of illness and achieving success in life.

There are various reasons why it is critical to comprehend the connection between high school students' physical health and stress. First, any disturbance to physical health throughout adolescence might have long-term effects because it is a crucial time for growth and development. Determining the precise mechanisms through which stress impairs physical health can help designers create efficient solutions and support networks to lessen these effects.

Finally, addressing stress-related physical health issues can help high school children move into adulthood and become healthier, more resilient young people better equipped to handle life's challenges.

Thus, the research study aims to investigate the impact of stress on the physical health of high school students in Thailand, specifically focusing on students in grades 10 through 12. The high academic standards and competitiveness of Thailand's high school education system are believed to contribute to increased stress levels among students. According to a study published in the



International Journal of Adolescent Medicine and Health, self-compassion can help alleviate the negative effects of stress on school burnout among Thai high school students (Charoensuk Sukjai, 2024). Another study found that moderate levels of academic stress can lead to physical symptoms such as tension, pain, sleep problems, and fatigue among senior high school students in Thailand (Ponkosonsirilert Thiti, 2022).

This research will employ a mixed-methods approach, combining surveys and interviews, to gather comprehensive data on the experiences of high school students in Thailand and how stress affects their physical health. By shedding light on this critical issue, this study provides valuable insights that can inform educational policies, mental health support programs, and strategies to enhance the overall well-being of high school students in Thailand and, potentially, in other similar educational contexts worldwide.

METHODOLOGY

Our survey research has investigated the effect of stress on the physical health of high school students between grades 10 and 12 in Thailand by using online questionnaires. Our questionnaire consists of 36 questions. It was categorized into three sections: (1) General information, (2) Stress assessment test, and (3) Physical assessment test.

We used a volunteer sampling method in this survey. The questionnaires contain multiple choices, measured on a Likert-type scale ranging from one to five: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly agree. Questions were selected with an item-objective congruence (IOC) score of 0.5 or higher. The reliability of our questionnaires was determined using Cronbach’s alpha on the pilot study group, and the reliability score was 0.886, which is acceptable. The data was analyzed using the Statistical Package for Social Sciences (SPSS) program version 29.0.1.0.

RESULTS

Table 1. Valid percent in general information of participants (N=222)

Personal Information	Number of Participants	Valid Percent
1. Gender		
Female	175	78.8
Male	43	19.4
Others	4	1.8
2. Grade		
Grade 10	52	23.4
Grade 11	88	39.6
Grade 12	82	36.9
3. Type of School		
Thai School	166	74.8
International School	56	25.2
4. Conge vital disease(s) (allergies)		
Yes	44	19.8
No	178	80.2
5. How often do they visit the hospital		
Every year	20	9.0
Every 2 years	136	61.5
Every month	38	17.2
Others	27	12.3



In Table 1, the data shows the details of all samples collected, which can be implied that the majority of respondents are 78.8% female followed by 19.4% male and 1.8% other unspecified genders. The response indicates that they are mostly in grade 11 (39.6%) and 74.8% go to a Thai school. Most of them visit the hospital every 2 years (61.5%).

Table 2. Standard deviation and mean between level of stress and physical health

Variables	N	Mean	Std. Deviation
Level of Stress	222	3.539	0.737
Physical Health	222	2.536	0.812

Table 2 displays the mean score and the standard deviation of the probability of the level of stress and physical health. The minimum score is 1, while the maximum is 5, where 1 is a very low stress level and 5 is a very high stress level. The probability variable's mean is 3.539, while the standard deviation is 0.737. This represents a high level of stress in the sample population we have collected. The mean score and the standard deviation of physical health are also shown in Table 2. The result shows a mean of 2.536 and a standard deviation of 0.812, which indicates that most participants have their physical health at an average level.

Table 3. One-way ANOVA test; level of stress and grade

	SS	df	MS	F	P
Between groups	0.083	2	0.041	0.076	0.927
Within Group	119.970	219	0.548		
Total	120.053	221			

According to Table 3, the result from one-way ANOVA obtained a p-value of 0.927, which is more than 0.05. As a consequence, there is no significant effect on the level of stress and grade.

Table 4. The difference in level of stress between Thai schools and international schools

Type of School	N	Mean	Standard Deviation	t	p
Thai School	166	3.54	0.74	-0.083	0.342
International School	56	3.55	0.74		

According to Table 4, the results from the independent sample t-test obtained a p-value of 0.342, which is more than 0.05. As a consequence, there is no significant effect on the level of stress between Thai schools and international schools.

Table 5. The correlation between the level of stress and physical health of high school students

	Level of Stress	Physical Health
Pearson's Correlation	1	0.569**
Sig. (2-tailed)		<.001
N	222	222

** . Correlation is significant at the 0.01 level (2-tailed)



Table 5 shows Pearson's correlation coefficient between the level of stress and physical health. The results showed that the two factors have a significant correlation (correlation coefficient, $r = 0.569^{**}$), supporting our hypothesis that there is a negative correlation between them. The level of stress and physical health of high school students. DISCUSSION

The study's findings indicate that high school students, on average, have significant levels of stress (mean = 3.54). This could be a result of high school students being teenagers. Physical and environmental changes must be accepted in this day and age. They experience pressure in their education. Including the expectations of family and society (Jittinun Boonsathirakul, 2021). This leads to tension and makes it difficult for many kids to adjust in time.

Teens who need assistance with stress call the 1323 mental health hotline, according to research from the Rajanagarindra Institute for Child and Adolescent Mental Health (51.36 percent). This is consistent with the research of Sangnapa Baramee and Tayawee Juntarawiwat (2023) who studied the factor related to the stress of online learning due to the COVID-19 situation among grade 12 students in the Nakhon Ratchasima They also found that the majority of pupils (51.60%) exhibited high levels of stress (Wananya Kaewkaewpan, 2021).

From the results of comparing stress levels classified by grade level. It was found that students at different grade levels had similar levels of stress. When entering high school, there will be academic content that must be studied in greater depth. In addition to studying outside of class, students in Thailand still have to study 7-8 lessons per day, which inevitably leaves them with little time to relax (Jarucha Banjerdtaworn, 2017), which causes students to have high stress. And when people are exposed to events that cause high stress for a long time, they will not be able to adapt quickly. As a result, students in Grade 10, Grade 11, and Grade 12 have similar high levels of stress.

For the results of comparing stress levels classified by school status, it was found that Thai school students experience stress similar to that of international students. This is probably because stress can happen to every student. Alan Tonyamad (2013) studied factors related to affecting strays and stress management for students of Islamic Private Schools in the Hatyai district, Songkhla Province said that in their lifetime, people experience stress all the time. High school is a time when preparing for university entrance exams. Some Thai students need help to adapt quickly to changes in the criteria for accepting students for further studies in various universities, such as the cancellation of exams. Changes in exam format together with the pressure situation from Thai society. As a result, Thai high school students have high levels of stress. Some Thai students feel bored and stressed out and don't want to study. High school students' stress levels affect their physical health. The results from Table 5 showed a moderate positive correlation (correlation coefficient, $r = 0.569^{**}$). This is in line with our hypothesis that there is a negative relationship between high school students' stress levels and physical health, and is consistent with past research. Both the research work of Riruengrong Ratanavilaisakul (2001), studied health, psychological and social factors, and the mental health status of KMUTT students who applied. For consultations, in the psychological counseling service of the social science And Humanities Programmer, School Of Liberal Arts, KMUTT found that physical health, mental health, and social factors, if any, increased. It will cause students to be more stressed about the problems they come to ask for advice.

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