



The Relationship between Stress and the Number of Hours That Students in Bangkok Spend Traveling to and Back from School

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ABSTRACT: People living in Thailand spend approximately 2 hours traveling every day due to traffic jams and long distances from their home to the destination.[1] The problem is also faced by Thai adolescents, particularly high school students, who are susceptible to experience stress due to traveling to and from school. Thus, this study analyzes the relationship between stress and the number of hours high school students in Bangkok spend commuting to and from school by conducting survey research. The survey was conducted using online questionnaires given out to Thai high school students in Bangkok, where a total of 273 responses were collected and analyzed using Statistical Product and Service Solutions (SPSS). The result shows that commute time, leisure, and the change of transportation types are significantly related to stress with the p values of 0.27, 0.005, and 0.045, respectively. This indicates that stress increases in high school students are due to long commute times greater than 2 hours, less leisure time less than 3 hours, and transportation. Nonetheless, there is no considerable relationship between students' grades and stress. Thus, travel time can influence teenagers' stress levels, so children may consider studying near their home to prevent themselves from being stressed.

KEYWORDS: High school students, Travel time, Stress

INTRODUCTION

Stress is one form of the human body's response to pressure, which can be formed by various situations in life, ranging from but not limited to unfavorable events in life. When the human body encounters stress, stress hormones are produced and trigger our body's fight or flight response and immune system [2]. Despite popular belief that stress is unbeneficial, stress can affect people around the world in both positive and negative ways. In certain situations, stress can increase alertness and performance. Moreover, there are reports that prolonged manageable stress can improve growth of stem cells [3]. However, it is also reported that stress has multiple negatives as well. For example, stress can be the cause of several disorders included but not limited to neurogenesis disorder, declarative memory disorder, and cognitive disorder[4]. There are also minor effects that if left unchecked can turn lethal such as suicidal thoughts and self-harm. This is evidence in American, where 32% of the population that report that they feel stressed at some point in their lives, also addressed that they have had suicidal thought and 16% had commit self-harm in the past.[6] According to Associated with Stress Levels in Secondary School Students under Bangkok Metropolitan Administration research, 54.7% of high school students in Bangkok have higher stress levels than normal [6]. Furthermore, it is shown in their paper that time management is listed as the second highest reason for stress [6]. Combined with data from the Thai Embassy, Thai citizens spend a total of 37 million hours traveling to work every day which can be calculated as approximately 2 hours per person every day [1]. It is highly possible that long traveling time contributed to more challenging time management, which in turn increased stress. This idea is reinforced by the fact that planning a daily schedule to help manage time is listed as a way to manage stress in some guidelines[7].

As a result of that data, we decided to look into teenage travel time and stress; however, there is currently not much research conducted on this topic. So in order to increase awareness and information about this issue, we conducted this study to investigate the connection between travel time and stress. To be more specific, this study is conducted in high school students due to adolescence being the most vulnerable to stress. This is done by surveying semi-random high school students in Bangkok to observe their stress level and travel information.



METHODOLOGY

A cross-sectional survey was conducted to assess the relationship between stress and the number of hours students spend traveling to and from school. The survey research is composed of 25 questions which are categorized into two sections: 1) General and travel related information and 2) Stress assessment. Our questionnaire contained multiple choices with Likert-type scale. The questionnaires were assessed by three specialists to obtain the Item-Objective Congruence (IOC) index of above 0.5. The pilot questionnaire was distributed during the beginning of June by utilizing both online and physical approaches. Cronbach’s alpha from 29 participants picked for pilot testing was used to determine the internal reliability of the questions, where we obtained a score of 0.81. The survey was then conducted using online questionnaires given to Thai high school students during June 2023. The total respondents were 247 with 3 excluded due to error. For statistical analysis we used Statistical Product and Service Solutions (SPSS) version 29.0.1.0 (171). One-way ANOVA (F-test) was performed to compare the mean between subjects. For all analyses, p-value below 0.05 is considered significant.

RESULTS

Table 1. General information of participants. (N = 244)

Personal Information	Number of Participants	Valid Percentage
Gender		
Male	87	35.7
Female	145	59.4
Prefer not to say	12	100
Total	244	100.0
Educational Level		
Grade 10th	23	9.4
Grade 11th	53	21.7
Grade 12th	168	68.9
Total	244	100.0
Age		
17 year	149	61.86
More than 18 year	21	
Total	244	100.0

According to Table 1, the majority of samples was female, consisting of 145 people, accounting for 59.4%. Most of the respondents studied in grade 12, consisting of 168 people, accounting for 68.9% and most of the participants were at the age of 17 years old, accounting for 61.86%.

Table 2. Describe Statistic

	N	Mean	Std. Deviation
Stress	244	3.3669	.6418

According to Table 2, among 244 participants, the mean of stress turned out to be 3.3669 which indicates that participants were relatively stressed; the standard deviation was 0.6418.



Table 3. One-Way ANOVA table; stress and education level

Break duration	df	Sum of squares	Mean square	F	P
Between groups	2	2.185	1.092	2.689	.070
Within groups	241	97.906	0.406		
Total	243	100.091			

According to Table 3, it illustrates that education level has no significant effect on stress. The result from One-Way ANOVA obtained a p-value of 0.070, mean square between groups of 1.092, and mean square within groups of 0.406.

Table 4. One-Way ANOVA table; Stress and The number of change of traveling method

Break duration	df	Sum of squares	Mean square	F	P
Between groups	5	4.629	0.926	2.308	.045**
Within groups	238	95.461	0.401		
Total	243	100.091			

**p < 0.05

According to Table 4, it illustrates that the number of changes of traveling method has a significant effect on stress. The result from One-Way ANOVA obtained a p-value of 0.045, mean square between groups of 0.926, and mean square within groups of 0.401.

Table 5. One-Way ANOVA table; stress and leisure time per day

Break duration	df	Sum of squares	Mean square	F	P
Between groups	4	5.975	1.494	3.793	.005**
Within groups	239	94.115	0.394		
Total	243	100.091			

**p < 0.05

According to Table 5, it illustrates that leisure time per day has a significant effect on stress. The result from One-Way ANOVA obtained a p-value of 0.005, mean square between groups of 1.494, and mean square within groups of 0.394.

DISCUSSION

Thai students spend a number of hours traveling to and back from school, some could be up to 4 hours. These time wasted in traffic and long distance travel have been shown to be stressful for most students. According to Table 2, Thai high school students are having a high level of stress. This analysis has shown that commute time to and back from school has a significant effect on students' stress level. As the number of traveling hours goes up, students' stress level increases. This could be due to the fact that



students may feel that they could have dedicated their time to finish their homework and other tasks, instead of using that time to travel to and back from study. There is research that corresponds with this result which states that Italian workers traveling long distances for up to 45 min were experiencing a stressful lifestyle. [8]In addition, the change of method of transportation evidently affects the adolescents' stress (table 4). This may be because of the fear of missing buses and the increased transportation cost.

Moreover, free time has a significant effect on stress. This could be because of the fact that not having enough time to finish all of their work can be the reason for stress. Research from Canada in 1996 shows that 48.6 percent of students felt rushed and 58 percent felt that they did not have enough time to do their tasks while they were at school.[9]However, there is no relation between commute time and free time.

Nevertheless, there is no remarkable relation between stress and grades (Table X). High school students grade 10 to 12 who participate in this research have a similar level of stress. This could be because Thai high school students, especially in Bangkok, tend to focus on the outcomes of their academics, so they have to take tutorial classes apart from their classroom. [10][11][12]There is a resemblance result from a research in 2017 which reported that there were no group differences regarding the ages of the high school students in Thailand aged 15 to 19.[13]

CONCLUSION

The research presents the effect of participation in the relationship between stress and the number of hours that students in Bangkok spend traveling to and back from school. We found that stress in Thai high school students could be increased by travel time, the number of changes of traveling method, and leisure time per day. These findings would eventually help **intuition** into the factors contributing to travel-related stress and suggest solutions for reducing commute time, such as choosing accommodation near the school to **reduce** student stress.

REFERENCES

1. *Commuting in Thailand* / ThaiEmbassy.com. (2015, April 16). Www.thaiembassy.com. <https://www.thaiembassy.com/thailand/thailand-transportation>
2. Mental Health Foundation. (2021). *Stress*. Www.mentalhealth.org.uk. <https://www.mentalhealth.org.uk/explore-mental-health/a-z-topics/stress>
3. Jaret, P. (2015, October 20). *The Surprising Benefits of Stress*. Greater Good. https://greatergood.berkeley.edu/article/item/the_surprising_benefits_of_stress
4. Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T. P., & Sahebkar, A. (2017). The impact of stress on body function: A review. *EXCLI Journal*, 16(1), 1057–1072. <https://doi.org/10.17179/excli2017-480>
5. Limsuwan, N., & Nitdhisarnee Rujirungsijareon. (2021). การศึกษาวิจัยที่สัมพันธ์กับระดับความเครียดของนักเรียนมัธยมศึกษาสังกัดกรุงเทพมหานคร. *Journal of the Psychiatric Association of Thailand*, 66(1), 53–68. <https://he01.tci-thaijo.org/index.php/JPAT/article/view/243511#:~:text=Result%3A%20The%20study%20population%20541>
6. *Stress: statistics*. (n.d.). Www.mentalhealth.org.uk. <https://www.mentalhealth.org.uk/explore-mental-health/statistics/stress-statistics>
7. World Health Organization. (2023, February 21). *Stress*. Www.who.int. https://www.who.int/news-room/questions-and-answers/item/stress/?gclid=Cj0KCQjwusunBhCYARIsAFBsUP_kjkTuN3imrBy6BUSCOoWdFv6OBx1yw4z1NcA1tOu2Hvf-OBByYcoaAk-gEALw_wcB
8. Costa, G., Pickup, L., & Di Martino, V. (1988). Commuting--a further stress factor for working people: evidence from the European Community. II. An empirical study. *International Archives of Occupational and Environmental Health*, 60(5), 377–385. <https://doi.org/10.1007/BF00405674>
9. Shaw, S. M., Caldwell, L. L., & Kleiber, D. A. (1996). Boredom, Stress and Social Control in the Daily Activities of Adolescents. *Journal of Leisure Research*, 28(4), 274–292. <https://doi.org/10.1080/00222216.1996.11949776>
10. Chuchoui, K., Praikok, S., Nutadee, N., & Permsuwan, A. (2010). Stress and quality of life of grade 12 high school students in Muang District, Chiang Mai Province. *J Psychiatr Assoc Thai*, 26(1), 26-34.



11. Ruangkanhasetr, S., Plitponkarnpim, A., Hetrakul, P., & Kongsakon, R. (2005). Youth risk behavior survey: Bangkok, Thailand. *Journal of Adolescent Health, 36*(3), 227-235.
12. Pattanajak N. The factors of choosing academic instruction of high school student at Khon Kaen Municipality. [Faculty of Management Science]: Khon Kean University; 2012
13. Maritta, V., Ruthaychonnee, S., & Minna, A. (2017). Survey of adolescents' stress in school life in Thailand: Implications for school health. *Journal of Child Health Care, 21*(2), 222–230. <https://doi.org/10.1177/1367493517708476>

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