



---

## **A Survey on Relationship between Mental Health Issues and COVID-19 Pandemic of Grade 12 Students during University Admission**

***Aekthana Arsirawat<sup>a</sup>, Jutrirat Sarachan<sup>b</sup>, Punchikahn Songpaiboon<sup>b\*</sup>***

<sup>a</sup> *Triam Udom Suksa School, Patthumwan District, Bangkok 10330, Thailand*

<sup>b</sup> *Nawanmintrachinuthit Triamudomsuksanomklao school, Saphan Sung District, Bangkok 10240, Thailand*

---

### **ABSTRACT**

The objective of the current study was to investigate how COVID-19 pandemic has got effects on 12 grade students' mental health issues. There were 40 participants who were attending grade 12 of the school in Ramkhamhaeng, Bangkok, Thailand chosen through the Simple Random Sampling Technique. The tool used for data collection was the questionnaire. And, data were analyzed using an excel program to find out means, standard deviation, and percentage of the students' anxiety because of COVID-19 during the admission period. The results revealed that the fear of COVID-19 was indeed one of the factors that affected students' mental health. This study is useful as a case study for school, university, or government to help solve mental problems in high school students of all ages, albeit more studies should be taken into account.

---

Keywords: mental health, COVID-19 pandemic, Ramkhamhaeng District, grade 12 students, fear of COVID-19 scale (FCV-19S)

---

### **1. Introduction**

College admission is one of the most important events for Thai teenage life. They believe that getting into a good university will provide them a better opportunity for a better career in their future. Consequently, they tend to focus on admissions preparation. This causes a lot of stress, anxiety, and depression (Mahmud, M. S., Talukder, M. U., & Rahman, S. M. (2020)). Moreover, the Coronavirus Disease 2019 (COVID-19) pandemic has made it worse. A lot of them are severely affected by it (frontiersin.org). This situation causes their mental health problems including emotional, psychological, and social well-being ones. Due to the pandemic, many things change, lifestyles, test date and plan of admissions preparation of Grade 12 students. And, this affects how students think, feel, determine or act (Mentalhealth.gov, 2020) because of anxiety, and depression.

The current study was conducted in Ramkhamhaeng District using the aforementioned Fear of COVID-19 Scale (FCV-19S) to investigate how COVID-19 pandemic affected mental health issues and the determination of grade 12 students during university admissions. Its aim is to help solve mental problems in high school students of all ages, albeit more studies should be taken into account, with the hypothesis stating that the majority of the students had a high stress level with a correlation with two variables: COVID-19 and high school admissions.

\* *Corresponding author.*

E-mail address: [howardiyihong@gmail.com](mailto:howardiyihong@gmail.com)

## 2. Methodology

The study focused on exploring the relationship between mental health issues and COVID-19 pandemic of grade 12 students during university admissions in Ramkhamhaeng District, Bangkok. The participants were selected by the Simple Random Sampling Method. The survey was conducted via Google platform consisting of 3 parts: personal information, mental issues during COVID-19 pandemic and the perceived stress scale.

The personal information part included each respondent's gender, field of study, and mental issues. The second part was the Likert scale questions on fear of COVID-19 (Ahorsu et al., 2020) to explore the relationship between COVID-19 and mental health. The third part is a perceived stress scale (PSS) by Sheldon Cohen (1994) which helps identify stress level in an individual. Finally, the data analysis was done through Microsoft Excel to find out means, standard deviation, analysis of variance and percentage of the relationship of COVID-19 and the students' mental health issues.

## 3. Results and Discussion:

### 3.1 Part1: General Information

- |                   |         |            |            |
|-------------------|---------|------------|------------|
| 1. Gender         | male=11 | female= 21 | LGBTQIA+=3 |
| 2. Field of study | STEM=29 | ARTS=2     | ARTS-M=4   |
| 3. Mental issues  | Yes=7   | No=28      |            |

Personal Information	Number of Participants	Percentage
<b>Gender</b>		
1. Male		
2. Female	11	62.50
3. LGBTQIA+	25	27.50
	4	10.00
<b>Total</b>	<b>40</b>	<b>100.00</b>
<b>Field of Study</b>		
STEM		
Arts	32	80.00
Arts-Maths	2	5.00
	6	15.00
<b>Total</b>	<b>40</b>	<b>100.00</b>
<b>Mental Issues</b>		
Yes		
No	8	20.00
	32	80.00
<b>Total</b>	<b>40</b>	<b>100.00</b>

Table 1 : The personal information of participants, including gender, field of study and mental issue

According to table 1, the total number of participants were 40 including 11 males, 25 females and the rest were a part of the LGBTQIA+. There were 80% of the grade 12 students studying in the STEM Program. 15% and 5% of them were in Arts-Math and Art Programs respectively. In terms of mental health issues, most of them--32 participants responded to having no issues.

### 3.2 Part 2: Relationships of COVID-19 and Mental Health Issues

#### Rates of Agreement

- 1.00-1.80 = Strongly Disagree
- 1.81-2.60 = Disagree
- 2.61-3.40 = Medium
- 3.41-4.20 = Agree
- 4.21-5.00 = Strongly Agree

Items	Statements	Means	S.D.	Rates of Agreement
1	You are stressed out and feel uncomfortable for fear that the COVID-19 pandemic will negatively affect admission processes.	3.02	1.23	Medium
2	You are most afraid of COVID-19.	3.73	1.11	Agree
3	In the present, you feel safe at home and don't want to go outside due to COVID-19.	3.95	1.11	Agree
4	When you watch the news and stories about COVID-19, you become nervous or anxious.	3.93	1.27	Agree
5	In the present, you are anxious because of COVID-19 that you can't sleep.	3.13	1.34	Medium
6	Your heart races when you think about COVID-19.	4.15	1.03	Agree
7	Your hands become clammy when you think about COVID-19.	2.80	1.32	Medium
Mean		3.53	1.20	Agree

Table 2: The effects of COVID-19 on mental health issues

This table demonstrated the results from the six-item statements dealing with the participants' mental issues and stress level related to the COVID-19 pandemic using a Likert scale of 1 to 5, indicating strongly disagree to strongly agree respectively. The results showed that the overall average score was 3.53 with a standard deviation of 1.20. This could be interpreted that the respondents fear the COVID-19 virus which then causes them to become stressed and lead to mental health issues. Moreover, the higher the number of COVID-19 confirmed cases, the more they were afraid of. Most news channels tend to report the number of citizens who have been tested positive for COVID-19 which has already surpassed 10,000 people. Due to this, people might become more stressed.

3.3 Part 3: Perceived Stress Scale

3.3.1. Average Stress Level

Level of stress from Percieved Stress Scale

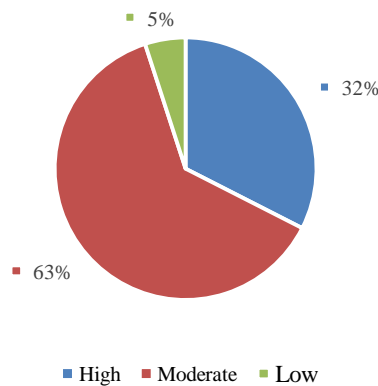


Fig. 1 The result of average stress among the students from perceived stress scale

Figure 1 showed the percentage of stress level measured from the perceived stress scale of each participant. In order to conclude that the students had mental issues relating to COVID-19, this stress scale needed to be conducted to help prove the stress level of the students. The results turned out that most of the students had moderate stress (62.5%), followed by high stress (32.5%) and low stress (5%) respectively.

### 3.3.2. Level of stress related to years of preparation.

Stress Level	M.4	M.5	M.6
High	33.3% (2)	32% (8)	33.3% (4)
Moderate	66.7% (1)	60% (15)	66.7% (8)
Low	0	8% (2)	0

Table 3 : Summary of percentage of students' stress based on years of preparation

There are also other factors that may lead to stress besides the pandemic, hence the researchers studied other specific factors affecting stress level. One of the significant factors was the year of starting preparation. Generally, those students who start preparing for university admission late tend to have more stress level than those who start earlier. According to table 3, the trend was different. The percentage of stress levels from different years of preparation shared a common number. This means that a year of preparation may not be a factor that contributed to the students' stress level.

### 3.3.3. Level of stress relating to faculty students choose for their admission

Faculty groups	Stress Level					
	High		Moderate		Low	
	Number of participants	percentage	Number of participants	percentage	Number of participants	percentage
Medical and Sciences	8	32.00%	16	64.00%	1	4.00%
Arts and Business	5	33.30%	9	59.94%	1	6.66%
Total	13	32.50%	25	62.50%	2	5.00%

Table 4. Summary of faculty groups that students choose to apply relate to stress level.

### Summary

Groups	count	sum	Average	Variance
Medical and Sciences	26	611	23.50	35.22
Arts, Design and Others	15	347	23.13	39.55

### Anova

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.28	2	0.64	0.012	0.98	3.24
Within Groups	1434.23	38	37.74	0.00	0.00	0.00
Total	1435.51	40	0.00	0.00	0.00	0.00

Table 5 : Summary of stress level based on different faculties calculated using Anova

Due to analysis of variance(ANOVA) in table 4 and 5 ,Another essential factor is faculty that the students will apply. The researchers grouped faculties into 2 categories. The first one was the faculties that relate to Medical and Sciences while the other one was based on Arts and Business.

From table 5, the stress scale of the 2 groups almost overlapped at an average of 23 points (moderate stress). This could be inferred that different faculties the student chose to apply did not affect their stress.

#### 4. Discussion

Results from the tables indicated that there was a correlation between the fear of COVID-19 and the mental health of grade 12 students during university admissions in Ramkhamhaeng District, Bangkok. As mentioned from Rodriguez-Hidalgo et al. (2020) and Jones EAK et al. (2021), the research shows the relationship of COVID-19 and mental health of adolescent and it could be implied that the COVID-19 pandemic has impacted adolescent mental health

The overall average means 3.59 (from table 2) with a standard deviation of 1.20 which translates to mild stress level according to COVID-19 factor. The perceived stress scale also showed that most of the students had moderate stress. This means that the fear of COVID-19 and preparing for university entrance are factors that affect 12 grade students' mental health.

Moreover, the results from tables in part 3 showed that students had slightly the same level of stress even though they were choosing different faculties or the period of time they started preparing for entrance exams was different which opposed to some current study that was conducted. Wani& et.al (2016) stated that science students tend to have higher stress than art students. Another study from Khatib (2014) research on relationship of time management, perceived stress, and academic achievement showed that the lower the percent of time management, the higher the stress. This can be drawn as a conclusion that both faculties the student choosing and when they started preparing for the exam are irrelevant to the stress level that occurred.

#### 5. Conclusions:

In conclusion, now that high school students are affected by COVID-19 pandemic during university admissions, this study was initiated using a survey on the relationship between mental health issues and COVID-19 pandemic of grade 12 students in Ramkhamhaeng District, Bangkok, the highly affected area (dark red COVID zone). In this study an online survey was distributed to 40 twelfth graders who were studying in schools located in Ramkhamhaeng District. The results turned out that most of the students agreed that COVID-19 has affected their mental health. To prove this point, the perceived stress scale was used to make the results more reliable. From calculating the perceived stress scale, it indicated that the majority of the students had a moderate stress level. In addition, the researchers also considered other factors that might affect the student's mental health which were faculties they chose and years of starting preparation. Surprisingly, the results showed that there was no particular relationship between these 2 factors and the stress rate, as it was found that the hypothesis was inaccurate. To sum up, the results between fear of COVID-19 scale and Perceived stress scale are coherent to each other. It is important that students, especially at the age for university entrance, should get the physical and mental care as they need to develop in their life. Therefore, it is important to seek and to use all of the available resources and therapies to help adolescents mediate the adjustments caused by the pandemic. Last but not least, the fact that the researchers already conducted the survey on other factors that might relate to stress levels in the students, there may be more factors that the current study did not cover such as family or peer pressures.

#### Acknowledgements

Our research team would like to thank Mr. Wongwit Wongnarut for giving us some precious advice and insightful feedback throughout the process. We would like to extend our sincere thanks to all the survey participants who helped us collect the data needed. Without them, the research will not be completed.

#### References

- Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The Fear of COVID-19 Scale: Development and Initial Validation. *International American Psychological Association*. (2018, Nov 1). *Stress effects on the body*. American Psychological Association. Retrieved Jul 25, 2021, from <https://www.apa.org/topics/stress/body>
- Cohen, S. (1994). *Perceived Stress Scale (PSS)*. mindgarden. Retrieved Jul 25, 2021, from <https://www.mindgarden.com/documents/PerceivedStressScale.pdf>
- Rodríguez-Hidalgo, A. J., Pantaleón, Y., Falla, D., & Dios, I. (2020, Nov 05). *Fear of COVID-19, Stress, and Anxiety in University Undergraduate Students: A Predictive Model for Depression*. *Frontier in Physiology*. Retrieved Jul 25, 2021, from <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.591797/full>
- U.S. Department of Health & Human Services. (2020, Aug 05). *mentalhealth.gov*. What Is Mental Health? Retrieved Jul 25, 2021, from <https://www.mentalhealth.gov/basics/what-is-mental-health>
- Mahmud, M. S., Talukder, M. U., & Rahman, S. M. (2020). Does 'Fear of COVID-19' trigger future career anxiety? An empirical investigation considering depression from COVID-19 as a mediator. *International Journal of Social Psychiatry*. <https://doi.org/10.1177/0020764020935488> [4]
- Jones, E., Mitra, A. K., & Bhuiyan, A. R. (2021). Impact of COVID-19 on Mental Health in Adolescents: A Systematic Review. *International journal of environmental research and public health*, 18(5), 2470. <https://doi.org/10.3390/ijerph18052470>

- 
- Khatib, A. S. A. (2014, May 20). Time Management and Its Relation To Students' Stress, Gender and Academic Achievement Among Sample of Students at Al Ain University of Science and Technology, UAE. *International journal of business and social research*, vol.4(no.5), 47-58. <https://doi.org/10.18533/ijbsr.v4i5.498>
- Wani, M. A., Sankar, R., P, R., A.L.S, N., C.E, S., &L.D.B, M. (2016). Stress Anxiety and Depression Among Science and Arts Students. *International Journal of Education and Psychological Research (IJEPR)*, 5(3),pp. 48–52. Retrieved from [http://ijepr.org/doc/V5\\_Is3\\_Sep16/ij10.pdf](http://ijepr.org/doc/V5_Is3_Sep16/ij10.pdf)
- Saraswathi, I., Saikarthik, J., Senthil Kumar, K., Madhan Srinivasan, K., Ardhanaari, M. &Gunapriya, R. (2020). Impact of COVID-19 outbreak on the mental health status of undergraduate medical students in a COVID-19 treating medical college: a prospective longitudinal study. *PeerJ*, 8, e10164. <https://doi.org/10.7717/peerj.10164>