

# Psychological Change among University Students during Covid-19 Pandemic

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## ABSTRACT

The purpose of this study is to estimate psychological changes, especially the prevalence of anxiety and depression symptoms among university students during the pandemic. In addition, we also evaluate the potential lifestyle-related factors that make students more likely to experience these impacts. This research is a descriptive research with cross-sectional study. Survey research method was used to collect data from university students around Indonesia, Taiwan, and Japan. Simple random sampling technique from 106 university students. The study was conducted at Google Forms and the participants answer the question that provide in Google Forms. This study shows that students from various disciplines and universities in Indonesia, Taiwan, and Japan reported having symptoms of anxiety and depression during the Covid-19 pandemic.

**Keywords:** *psychological, Covid-19, pandemic, university students*

## 1. INTRODUCTION

After the announcement of a global pandemic by the World Health Organization in March 2020, the outbreak of coronavirus diseases (Covid-19) has changed the way people live across the world. Due to its fast dissemination, it forces many countries in the world to implement steps to prevent the outbreak of Covid-19. The steps of prevention including social lockdown, home quarantine, and social distances. Consequently, various sectors undergo changes to adapt to the current situation. One of which is educational sector. This education system applies an online-based learning system. Today, learning that is usually held face-to-face at universities has become only at home.

University students are well known as a vulnerable population that have burden of academic stressors. In common situation,

they are suffering from higher levels of stress, anxiety, depression, and eating disorder compared with other student groups, such as primary school students and middle school students [1][2]. Academic stressors refer to any academic demands that cause students to adjust how they behave towards those condition. For example, learning and mastering much knowledge in a short time, would lead to different degrees of pressure [3].

The word stress implies the experience of negative emotions after the body has tried to change or adjust the stress. In long term condition in which the stressor cannot be resolved, stress becomes chronic [4]. Later, will damage both physical and psychological aspect [5]. Chronic stress can increase anxiety and cause mood disorders, also known as major depression. Chronic

stress can also lead to a weakened immune system, high blood pressure, diabetes, heart disease, and obesity [6].

Now a days, due to unprecedented experience of 'home quarantine' under lockdown, the uncertainty of education system, changed education system and online learning, as a result, psychological changes such as mental health problems amplified unconsciously. This condition also has the potential of causing serious psychological disorders and threatening the productivity of society. Hence, those multiple impact need special attention [7].

A large number of studies support that the Covid-19 pandemic has impacted in psychological aspect, such as mental health, well-being, and behavior [1] [2] [3] [6] [7]. Many students in universities across the world also experience increased stress, anxiety, and depression symptoms as a result of uncertainty on university education, social isolation, and decreased family income during pandemic [8].

Most of the studies were conducted to measure depression, anxiety, and stress among university students. In addition, those studies also report the results in terms of percentage or prevalence. The results of those study also support that the COVID-19 pandemic has an impact on the mentality of students by revealing the level of anxiety and depression they experience [9] [10].

In the current study, we investigate and estimate the psychological change especially the prevalence of anxiety and depressions symptoms among university students during pandemic around Indonesia, Taiwan, and Japan. In addition, we also evaluate potential of lifestyle-related that could make students more likely to experience those impacts.

## 2. METHOD

This research is a descriptive research with cross-sectional study of the prevalence of symptoms of depression,

anxiety, stress and associated factors. This study was carried out in a population of university students live in Indonesia, Taiwan, and Japan.

Data collection in this study used questionnaire and generated using the Google Forms. After that, the link were shared through social media—WhatsApp, Line, and Facebook. Based on the collected data, it is known that the majority of respondents were female at 81 people out of 106. Furthermore, our participants were university students with the age around 16-33 years old. The students were informed about the purposes of this study. The students were assured that privacy and confidentiality would be maintained and that they can refuse to participate within the study. Total population of 106 students gave their consent to participate in this study and completed the questionnaire.

The questionnaire was divided into four sections, namely personal information, Covid-19 current situation investigation, main questionnaire, and lifestyle questionnaire. Personal information included name, age, gender, country, and university. Covid-19 current situation investigation serves to test participants' understanding of the Covid-19 pandemic. In main questionnaire, the form presents questions to test participants' depression and anxiety. The last, in lifestyle questionnaire, the form presents question about lifestyle questionnaire in a week. To answer this questionnaire in main question, likert scale were adapted to measure research variables.

Likert scale question types are widely used to measure people's attitudes and opinions and can make more subtle distinctions than simple "yes/no" question types. The Likert scale divides the rating scale into 5 or 7 levels (sometimes called satisfaction levels), with two extreme attitudes at the two ends, allowing respondents to choose between this range. Likert scale provide 1-5 point. Point 1

indicate strongly disagree. Meanwhile, point 5 indicate strongly disagree. The Likert scale question type will definitely include a medium or neutral option. The Likert scale is named after its founder, the American sociologist Rensis Likert.

**Pict 1. Likert scale**



### 3. RESULTS AND DISCUSSION

**Table 1. Current investigation questionnaire**

<b>1) I think, I understand the new coronavirus</b>	
Likert scale	Prevalence
1	22 (20.8%)
2	47 (44.3%)
3	22 (20.8%)
4	12 (11.3%)
5	3 (2.8%)
<b>2) I know very well that Covid-19 transmission should be prevent</b>	
Likert scale	Prevalence
1	49 (46.2%)
2	34(32.1%)
3	10 (9.4%)
4	8 (7.5%)
5	5 (4.7%)
<b>3) In response to the Covid-19, I choose to eat at home instead of eating out of home</b>	
Likert scale	Prevalence
1	53 (50%)
2	26 (24.5%)
3	12 (11.3%)
4	5 (4.7%)
5	10 (9.4 %)
<b>4) In order to avoid infection, I will wear a mask every day when I go out</b>	
Likert scale	Prevalence
1	82 (77.4%)
2	5 (4.7%)
3	5 (4.7%)
4	3 (2.8%)
5	11 (10.4%)
<b>5) When I'm in public places, medical institutions, and confined places, i feel uncomfortable when using alcohol disinfection and checking the body temperature</b>	
Likert scale	Prevalence
1	15 (14.3%)
2	11(10.5%)

3	13 (12.4%)
4	31 (29.5%)
5	35 (33.3%)

**Table 2. Main questionnaire**

<b>1) When people beside me are not wearing a mask, I will be panic</b>	
Likert scale	Prevalence
1	23 (21.7%)
2	34 (32.1%)
3	24 (22.6%)
4	15 (14.2%)
5	10 (9.4%)
<b>2) Because of the Covid-19, I will be panic outside home.</b>	
Likert scale	Prevalence
1	10 (9.4%)
2	22 (20.8%)
3	42 (39.6%)
4	24 (22.6%)
5	8 (7.5%)
<b>3) I will be panic because of my neighbors are quarantining at their home</b>	
Likert scale	Prevalence
1	12 (11.3%)
2	19 (17.9%)
3	34 (32.1%)
4	30 (28.3%)
5	11 (10.4%)
<b>4) I will be frightened by the people around me coming back from abroad.</b>	
Likert scale	Prevalence
1	11 (10.4%)
2	26 (24.5%)
3	37 (34.9%)
4	23 (21.7%)
5	9 (8.5%)
<b>5) I feel safe now</b>	

Likert scale	Prevalence
1	12 (11.3%)
2	24 (22.6%)
3	41 (38.7%)
4	20 (18.9%)
5	9 (8.5%)

**6) I am worried that something bad may happen**

Likert scale	Prevalence
1	15 (14.2%)
2	30 (28.3%)
3	31 (29.2%)
4	18 (17%)
5	12 (11.3%)

**7) I feel scared now**

Likert scale	Prevalence
1	3 (2.8%)
2	21 (19.8%)
3	36 (34%)
4	31 (29.2%)
5	15 (14.2%)

**8) I am worried now**

Likert scale	Prevalence
1	4 (3.8%)
2	26 (24.5%)
3	40 (37.7%)
4	22 (20.8%)
5	14 (13.2%)

**9) I have a hard time falling asleep**

Likert scale	Prevalence
1	7 (6.6%)
2	32 (30.2%)
3	17 (16%)
4	25 (23.6%)
5	25 (23.6%)

**10) I am satisfied with life**

Likert scale	Prevalence
1	9 (8.5%)
2	30 (28.3%)
3	44 (41.5%)
4	15 (14.2%)
5	8 (7.5%)

**11) I feel stable now**

Likert scale	Prevalence
1	6 (5.7%)
2	27 (25.5%)
3	42 (39.6%)
4	21 (19.8%)
5	10 (9.4%)

**12) During this pandemic, i feel depressed and anxious than ever**

Likert scale	Prevalence
1	7 (6.6%)
2	23 (21.7%)

3	34 (32.1%)
4	25 (23.6%)
5	17 (16%)

**Table 3. Lifestyle questionnaire**

1) How often do you exercise	
Answer	Prevalence
Never	17 (16%)
Once in a week	22 (30.2%)
Twice in a week	21 (19.8%)
Three times in a week	14 (13.2%)
More than three times in a week	22 (20.8%)
2) Number of times a week you consume fast food	
Answer	Prevalence
0	25 (23.6%)
1-2	64 (60.4%)
3-4	14 (13.2%)
5 times or more	3 (2.8%)

Total of 106 valid questionnaires filled were collected through Google Forms, of which 66 were participants from Indonesia, 39 from participants from Taiwan and 1 participant from Japan. The respondents came from various universities around the world with different majors. The majority of respondents aged 16 to 25 with the number of 84 respondents. Female respondents dominate the total number of respondents as much as 77.1%

In the first section, to be precise question number one, "I think, I understand the new coronavirus of these, 69 said they knew about Covid-19, while 22 of respondents said they knew moderately and the remaining 15 said they did not. In question 2, "I know very well so Covid-19 transmission should be prevented," 83 people said they believe that the outbreak of Covid-19 should be prevented and 13 said that they have a different understanding.

Most students will choose to bring meals to replace internal use (91 person) during the epidemic period. They will also choose to wear masks (92 people), and a few won't choose to wear a mask (9 people), of which Indonesian students make up the majority. According to Taiwanese law, it prohibits restaurants from opening for internal use or eating inside. Public places such as cinemas and gyms were closed during this time. People were even fined NT\$3,000 to NT\$15,000 (approximately 1,539,000-7,690,000 rupiah) for going out without masks. While parts of Indonesia required restaurants to close at 6-7 p.m or you are required to use a delivery order above those hours, but it depends on the local policy where they live. The number of restaurant visitors is limited to 50 percent within. If you don't wear a mask when you go out, you'll get a fine of about 100.000-1000.000 rupiah, depending on the local policy where they live. This shows that parts of Taiwan are more stringent in terms of legal norms.

In question 5, students said they "wouldn't" feel uncomfortable (66 people) when taking temperature measurements and alcohol disinfection in public, a small number of students said they were uncomfortable (26 people), and 13 students said they didn't feel special. most of the students said that they felt uncomfortable at first but now they are used to it.

In the second part of the emotional questionnaire answer, most of respondents will be panic and uneasy because the people around them do not wear masks, people are outside the home, neighbors in isolation at home or people who come back from abroad so on. Whereas, more than half of the respondents said that they didn't worry. According to the questionnaire, the respondents were also who said that they knew and understand about the virus. At the same time, most respondents said they were in a less secure environment or expressed "very concerned about bad situations. The results of

this questionnaire also state that 39 students said they would have difficulty falling asleep.

In question 10, there were 39 students expressing satisfaction with their current state of life, including 21 Indonesian students and 18 Taiwanese students. While the number of students who were satisfied with their current state (39 students), in question 11, dropped to 33 and the number of unstable students was 31. It can be seen that students for the overall

life are not satisfied with the state. After interviewing Taiwanese students, they said that changed policies in epidemic period allowed the quality of life to decline, bringing a lot of inconvenience. Even though, these measures were taken to prevent the spread. They also hope to end this period of vigilance. Finally, in the pandemic, a total of 30 students expressed their frustration and anxiety more than ever before, including 22 Indonesian students and 8 Taiwanese students, who expressed not only a basic understanding of the virus, but also a sense of fear that something would happen in the future.

Out of this questionnaire, due to the large number of reports from the mass media, while got a lot of epidemic information and prevention, university students also received some negative publicity that affects their mental health. For instance, the fact that western countries are facing unfavorable prevention and control of the epidemic or the tragedy information of a large number of people dying due to illness, makes everyone who pays attention to them deeply grieve. Especially for those with strong empathy, it is easier for them to get psychological trauma.

In lifestyle questionnaire, there is something quite surprising that 17 respondents do not do exercise in a week. This is quite dangerous if they are not exercise during this pandemic. In long term, lack of physical exercise can affect general well-being. The results of the report are no less surprising that there are still many university students who often eat fast food. Hafizurrachman [11] said that many studies mention the relationship

between junk food or fast food and mental health problems is quite acute. Even small but frequent consumption of fast food or junk food can contribute to aggravated mental health symptoms. Various mental illness prevention campaigns suggest making dietary and lifestyle improvements.

#### 4. CONCLUSION

The Covid-19 outbreak has affected many aspects of daily life with the sudden interruption of our daily lives and the new normal of social distancing. The life we were familiar with has changed dramatically within a few weeks. As a result, many people are faced the pressure to adapt the new environment. University students are also at risk of hesitation and anxiety during the virus outbreak.

In conclusion, this study emphasizes that students from various disciplines and universities in Indonesia, Taiwan, and Japan reported having symptoms of anxiety and depression during the COVID-19 pandemic. To prevent the impact of the pandemic on mental health, we can consider various factors including lifestyle, eating habits, exercise habits. Besides that, we also have to be wise in choosing the right information to consume during the pandemic. Based on this, we recommend university students to do the following things to maintain mental health and prevent psychological problem:

##### 1) Enjoy your free time

You can think that this situation as more leisure time, rather than thinking of yourself as a restrained person. Try to list the activities you can engage in, including drawing, knitting, learning music. You can practice cooking to reduce the chance of eating fast food. To prevent keep away from bored, you can use social media to keep in touch with your friend.

##### 2) Time schedule

Because of online courses, many students have lost their usual systematic

life habits. The lack of a fixed schedule can also lead to depression and negative emotions. Arrange your work and rest on schedule for the day. At the end of the day, cross out the things you have done and list the to-do items for the next day so that you can look forward tomorrow.

##### 3) Change your point of view

It is okay to feel depressed or anxious. You can admit these feeling to yourself and others that this is a difficult time. However, don't forget to think about what you value or what you want to do in life. In this difficult time it is better to maintain positive point of view and avoid the bad point of view.

The need to understand the impact of COVID-19 on students' psychological aspects is needed for overall well-being. Psychological aid and mental health care should also be prioritized when we experience symptoms of psychological problems.

#### REFERENCES

- [1] Browning, Matthew H.E.M., et al. (2021) *Psychological impacts from COVID19 among university students: Risk factors across seven states in the United States*. PLoS ONE 16(1): 10-27.
- [2] Yang, C., Chen, A., Chen, Y. (2021). *College students' stress and health in the COVID-19 pandemic: The role of academic workload, separation from school, and fears of contagion*. PLoS ONE 16(2): 1-6.
- [3] Abouserie, Reda. (1994). *Sources and levels of stress in relation to locus of control and self-esteem in university students*. Educational Psychology 14(3):323-330.
- [4] Mariotti, Agnese. (2015). *The effects of chronic stress on health: new insights into*

*the molecular mechanisms of brain-body communication.* Future science OA, 1(3).

[5] Salari, N., Hosseini-Far, A., Jalali, R. *et al.* (2020). *Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis.* Global Health 16(1): 57.

[6] Khan S, Khan RA. (2017). *Chronic Stress Leads to Anxiety and Depression.* Ann Psychiatry Ment Health 5(1): 1091.

[7] Islam MA, Barna SD, Raihan H, Khan MNA, Hossain MT. (2020). *Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey.* PLoS ONE 15(8): 1-8.

[8] Aristovnik, A., et al. (2020) *Impacts of the COVID-19 pandemic on life of higher education students: A global perspective.* Preprints :1-4.

[9] Hamaideh, S.,H., et al. (2021). *Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and "home-quarantine".* Nursing Open :1-9.

[10] Basheti, I.A., Mhaidat, Q.N., Mhaidat HN. (2021). *Prevalence of anxiety and depression during COVID-19 pandemic among healthcare students in Jordan and its effect on their learning process: A national survey.* PLoS ONE 16(4):1-13

[11] Hafizurrachman, Muhammad, and Hartono, Risky K. (2021). *Junk Food Consumption and Symptoms of Mental Health Problems: A Meta-Analysis for Public Health Awareness.* Kesmas: Jurnal Kesehatan Masyarakat Nasional 16 (1) :1-8