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Research Article

Precautionary Measures, Attitude, and Productive Activities of Students in West Java Province, Indonesia, during Covid-19 Pandemic

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Abstract
The Covid-19 pandemic has been ongoing for approximately one year, hence, several activities must be carried out remotely from home. Studying from home for every level of education has its challenges, specifically for university students in terms of maintaining productive activity. Therefore, this study aimed to determine the impact of a one-year pandemic on the precautionary measures, attitudes, and productive activities of students in Indonesia. A descriptive cross-sectional approach was used, and an online questionnaire was distributed between 11–15 January 2021 to 628 undergraduates in West Java Province. The result showed that students still adhere to health protocols by wearing a face mask (93.8%), washing hands (74.7%), and social distancing (64.5%), but they were feeling bored (60.2%) with the online activities carried out at home. A total of 81.4% hope the activity and online class can change to face-to-face to keep social interaction with other people. In productivity, more than 40% can find new hobbies and carry out positive activities while staying at home. They were also feeling more grateful during the pandemic. Based on the results, students are still aware of health protocols and regulations of the government as precautionary measures for the spread of Covid-19. Despite the boredom, they can still stay productive by engaging in positive activities at home.

Keywords: Attitude, Covid-19, online activity, precautionary measures, productivity

Tindakan Pencegahan, Sikap, dan Aktivitas Produktif Mahasiswa di Provinsi Jawa Barat, Indonesia, selama Pandemi Covid-19

Abstrak
Pandemi Covid-19 sudah berlangsung kurang lebih satu tahun, dan selama waktu tersebut, banyak kegiatan yang harus dilakukan dari rumah. Bagi pelajar di setiap jenjang pendidikan, termasuk mahasiswa, pembelajaran secara daring memiliki tantangan tersendiri khususnya dalam menjaga aktivitas produktif. Penelitian ini bertujuan untuk mengetahui dampak pandemi Covid-19 terhadap tindakan pencegahan, sikap, dan aktivitas produktif mahasiswa di Indonesia selama satu tahun pandemi dengan metode studi potong lintang deskriptif. Kuesioner *online* disebarkan pada tanggal 11–15 Januari 2021 kepada mahasiswa di Indonesia khususnya provinsi Jawa Barat, dan sebanyak 628 mahasiswa sarjana berpartisipasi sebagai responden. Hasil penelitian menunjukkan bahwa mahasiswa masih mematuhi protokol kesehatan dengan menggunakan masker (93,8%), mencuci tangan (74,7%), dan menjaga jarak (64,5%). Namun mereka merasa jenuh (60,2%) dengan aktivitas yang selalu dilakukan di rumah secara daring. Sekitar 81,4% responden berharap kegiatan dan kelas daring dapat berubah menjadi tatap muka untuk menjaga interaksi sosial dengan orang lain. Dalam aspek produktivitas, lebih dari 40% mahasiswa dapat menemukan hobi baru dan melakukan banyak kegiatan positif selama di rumah dan merasa lebih bersyukur di masa pandemi ini. Sebagai simpulan, para pelajar di Indonesia masih sadar akan protokol kesehatan dan menerapkan peraturan pemerintah tentang tindakan pencegahan penyebaran Covid-19. Meski aspek sikap mereka menunjukkan rasa jenuh, mereka dapat tetap produktif dengan melakukan kegiatan positif di rumah.

Kata kunci: Aktivitas daring, Covid-19, produktivitas, sikap, tindakan pencegahan

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Introduction

Since Covid-19 was announced as a pandemic in March 2020 by the World Health Organization (WHO), most countries have been urged to apply restrictions on people's mobility to reduce the transmission of Covid-19.[1] Indonesia is one of the worst affected countries in Asia, with a number of confirmed cases of more than 1,2 million as of February 2021 and a mortality rate of 2,7%. To control the outbreak, the Indonesian government has been enacting nationwide and local restrictive confinement from the start of the pandemic. The restriction policy encompasses social distancing, travel restrictions, school and university closure, and cancellation of crowd-inviting events such as social, cultural, music, and sporting matches.[2] Citizens are still allowed to leave houses for essential needs but working and studying are encouraged to be done remotely from home.

Despite the level of obedience to restriction policies varied in each region in Indonesia,[3] most universities are still carrying out remote learning that is called Study from Home.[4] West Java is one of the provinces in Indonesia where many universities are located, both national and private funding universities. According to the restriction policy issued by the ministry and local government, most universities in West Java are applying for fully online learning since March 2020. This online learning is considered the safest option, as the pandemic is still spreading at a high rate in the region.

In remote education, students must adapt to the online learning environment, including attending online classes, practical training, and other activities that must be done online, including student activities organized by the student executive council. Interaction between students and teachers is practically mediated by technology. Some negative effects of online learning during the Covid-19 pandemic have been reported, such as a lack of socialization and learning motivation,[5] less interactive,[6] and also decrease in self-efficacy and cognitive engagement,[7] Boredom, anxiety, and also frustration among university students were also reported as the impacts of the Covid-19 pandemic.[8] For more severe cases, moderate to high levels of frustration were observed among students, which were associated with concerns about the online study and maintaining routines during the pandemic.[9]

The study of precautionary measures, attitudes, and productive activities of the student is vital for understanding the effect of the pandemic on the daily activities of students. This study aims to describe the condition of Indonesian students, especially students in West Java Province, after facing Covid-19 for about a year. The precautionary measures, attitudes, and productive activities of the student were investigated. The total of participants was 628 undergraduate students from a variety of majors.

Methods

Sample and data collection

The study sample consisted of undergraduate students from universities in West Java Province, Indonesia, with majority were students from Universitas Padjadjaran. A descriptive cross-sectional design was used in this study. Target of participant was 384 based on the Lemeshow equation sample size measurement (https://apps.who.int/iris/handle/10665/40062). The study utilized an online questionnaire delivered to participants in the period between January 11 and 15, 2021, coinciding with 10 months of the pandemic since WHO declared the novel coronavirus (Covid-19) outbreak as a global pandemic on March 11, 2020. Data were collected from undergraduate students through online questionnaire which was created on Google Forms and spread out directly to undergraduate students. This study

was an anonymous survey that did not collect any personal details about the participants and participation was voluntary, hence consent was implied. Ethical approval was obtained from The Research Ethics Committee Universitas Padjadjaran (No. 185/UN6.KEP/EC/2021) and was conducted in accordance with the Declaration of Helsinki.

Tools

The questionnaire was obtained by creating and adapting from the studies that had been published. The online questionnaire consisted of five main divisions: sociodemographic, precautionary measures, attitude during an activity at home, online class activity, and productive activities during a stay at home. Sociodemographics included questions about gender, university, faculty, and academic level/year. Then students were asked about precautionary measures to indicate whether they are sticking to health protocols and paying attention to health after 10 months of the Covid-19 pandemic. Precautionary measures included updated information about Covid-19 and Covid-19 vaccination, wearing face mask, washing hands regularly, social distancing, staying at home, avoiding the use of public transportation, consuming healthy food, vitamin, or traditional medicine, doing physical exercise, and getting sufficient and quality sleep. The participant responses were recorded based on the following options: never, rarely or sometimes, and often or always. Participants were then asked to assess their attitude in doing activities while staying at home. The question about the attitude during activities at home included feeling bored doing activities at home, doing work from home in the bed, creating a comfortable work zone at home, dressing up and showing up in online meetings, and taking a break at least 2–3 hours after online activity. Participants responded to the above questions with never, rarely or sometimes, and often or always. After that, students were asked their opinion about online class activities including online classes as the best choice at this time, increasing creativity, helping to understand the course, enjoyable, it can only transfer knowledge not transfer skill, making social interaction not optimal, and their hope about sooner offline class. All these questions were answered using a single option of the following: agree, I do not know, and disagree. Furthermore, the students were asked about their productivity during doing activities at home. The questions are about whether they can find new hobbies, increase their creativity, have a full activity to spend time, enjoy an activity like writing, reading, or cooking and they can still stay productive while staying at home. The participant responses were recorded based on following options: agree, I do not know, and disagree. Validity and reliability questionnaire were measured using Dunnett's test to 10% of targeted participants. The result showed that the questionnaire is valid.

Statistical analysis

Statistical analysis of the correlation between the two parameters was carried out using the R software (http://cran.r-project.org) for Windows with a license from the GNU General Public License. Pearson's correlation coefficient (rho) was used to determine the strength of the linear relationship between data pairs, $-1 \leq \text{rho} \leq 1$. The closer the value is to 1 or –1, the stronger the linear correlation.

Results

This study was conducted to assess the attitude and productivity of students during Covid-19 pandemic. The total participants obtained were 628 respondents which showed good result because it exceeded the expected target of participants. The participants are students from a variety of universities in West Java Province, Indonesia. Of the total participants, 61.5% came from Universitas Padjadjaran

Table 1 Sociodemographic of Participants (n=628)

Variable	Number	Percentage (%)
Gender		
Female	414	65.9
Male	214	34.1
University		
Universitas Padjadjaran	386	61.5
Universitas Pendidikan Indonesia	65	10.4
Institut Teknologi Bandung	43	6.8
Universitas Indonesia	31	4.9
Others	103	16.4
Faculty		
Science	267	42.5
Sosial	217	34.6
Others	144	22.9
School Year		
1st year	60	9.6
2nd year	155	24.7
3rd year	325	51.8
4th year	80	12.7
More than 4th year	8	1.3

and 65.9% were female (Table 1). Most of the participants were from the science faculty and 51.8% were 3rd year school students.

Precautionary measures

Table 2 shows that only 36.1% and 25.2% often or always update about Covid-19 and Covid-19 vaccine, respectively. Nevertheless, most of the participants were still aware of health protocols by always wearing a face mask (93.8%) and washing hands regularly (74.7%). Social distancing and staying at home were also implemented by participants about 64.5% and 59.1%, respectively.

Table 2 Precautionary Measures of Participants to Prevent Covid-19 Infection

Precautionary Measures	Frequency (n, %)		
	Never	Rarely/Sometimes	Often/Always
Updating information about Covid-19	14 (2.2%)	387 (61.6%)	227 (36.1%)
Updating information about Covid-19 vaccination	60 (9.6%)	410 (65.3%)	158 (25.2%)
Wearing a face mask	5 (0.8%)	34 (5.4%)	589 (93.8%)
Washing hand regularly	9 (1.4%)	150 (23.9%)	469 (74.7%)
Social distancing and avoid group people	8 (1.3%)	215 (34.2%)	405 (64.5%)
Staying at home as much as possible	15 (2.4%)	242 (38.5%)	371 (59.1%)
Avoid using public transportation	49 (7.8%)	149 (23.7%)	430 (68.5%)
Consuming healthy foods	49 (7.8%)	317 (50.5%)	262 (41.7%)
Consuming vitamin	144 (22.9%)	283 (45.1%)	201 (32%)
Consuming traditional medicine	297 (47.3%)	236 (37.6%)	95 (15.1%)
Doing physical exercise	200 (31.8%)	346 (55.1%)	82 (13.1%)
Getting sufficient and quality sleep	54 (8.6%)	369 (58.8%)	205 (32.6%)

Table 3 Attitude in Carrying Out Activities at Home

Parameters	Frequency (n, %)		
	Never	Rarely/Sometimes	Often/Always
Feeling bored with the activities at home	48 (7.6%)	202 (32.2%)	378 (60.2%)
Doing work from home in bed	92 (14.6%)	248 (39.5%)	288 (45.9%)
Creating comfortable work zone at home	62 (9.9%)	308 (49%)	258 (41.1%)
Dressing up and showing up in online meeting	121 (19.3%)	379 (60.4%)	128 (20.4%)
Participating in other activities besides online lectures	71 (11.3%)	255 (40.6%)	302 (48.1%)
Taking a break at least 2–3 hours after online activity	70 (11.1%)	333 (53%)	225 (35.8%)

Attitude during an activity at home
In this part, we measure the student attitude and their feeling towards activities carried out at home. More than 60% of the students are often feeling bored doing activities at home during pandemics as shown in Table 3. 45.9% of students are doing work from home in bed and only 41.1% of students create a comfortable work zone.

Online class activity
As the impact of the restriction policy during a pandemic, the student studied from home by online class. As shown in Table 4, 59.4% of the students agree that online class is better for this condition, however more than 80% hope that the class can be offline again.

Productive activity during a stay at home
Many activities have been carried out at home at this time. More than 30% of students say that they can stay productive while staying at home by doing many positive activities like finding new hobbies as shown in Table 5.

Discussion

Precautionary measures
The precautionary measure was evaluated to investigate that students still implemented the health protocol to protect themselves from coronavirus. Health protocols in Indonesia that are implemented include social distancing, wearing a mask, washing hands regularly, staying at home, and increasing immunity by applying Life Behavior Clean and Healthy such as consuming balanced nutrition, physical activity at least 30 minutes a day, and adequate rest.[2] Although participants has not recently followed updates about Covid-19, they are still implementing health protocols. Consuming healthy foods, vitamins, traditional medicine,

Table 4 Online Class Activities

Activities	Level of Agreement (n, %)		
	Disagree	I Do Not Know	Agree
Online class is the best choice at this time	58 (9.2%)	197 (31.4%)	373 (59.4%)
Online class increasing creativity	187 (29.8%)	328 (52.2%)	113 (18%)
Online class help understanding the course	330 (52.5%)	261 (41.6%)	37 (5.9%)
Enjoy the online class process	188 (29.9%)	334 (53.2%)	106 (16.9%)
Comfortable with online class	225 (35.8%)	306 (48.7%)	97 (15.4%)
Online class can only transfer knowledge not transfer skill	19 (3%)	168 (26.8%)	441 (70.2%)
Online class make social interaction not optimal	15 (2.4%)	90 (14.3%)	523 (83.3%)
Hoping the class can be offline	12 (1.9%)	105 (16.7%)	511 (81.4%)

Table 5 Productive Activities while Staying at Home

Statement	Level of Agreement (n, %)		
	Disagree	I Do Not Know	Agree
I can do many positive things	34 (5.4%)	352 (56.1%)	242 (38.5%)
I can find new hobbies	75 (11.9%)	270 (43%)	283 (45.1%)
I enjoy cooking	169 (26.9%)	2226 (36%)	233 (37.1%)
I like gardening	341 (54.3%)	190 (30.3%)	97 (15.4%)
I enjoy writing	303 (48.2%)	204 (32.5%)	121 (19.3%)
I enjoy playing games	208 (33.1%)	191 (30.4%)	229 (36.5%)
I enjoy reading	116 (18.5%)	303 (48.2%)	209 (33.3%)
I enjoy physical exercising	190 (30.3%)	294 (46.8%)	144 (22.9%)
I enjoy helping my family	50 (8%)	311 (49.5%)	267 (42.5%)
I enjoy helping each other	56 (8.9%)	321 (51.1%)	251 (40%)
I enjoy become entrepreneur	274 (43.6%)	235 (37.4%)	119 (18.9%)
I can stay productive	63 (10%)	354 (56.4%)	211 (33.6%)
I can get closer to my family	26 (4.1%)	165 (26.3%)	437 (69.6%)
My creativity increases	147 (23.4%)	370 (58.9%)	111 (17.7%)
I arrange a schedule per day for spent my time	223 (35.5%)	289 (46%)	116 (18.5%)
I am become more grateful during pandemic	29 (4.6%)	200 (31.8%)	399 (63.5%)
I will still be enthusiastic even though the activities are still running online	62 (9.8%)	283 (45.1%)	283 (45.1%)

physical exercise, and getting sufficient and quality sleep are seen as not too important for them. Less than 50% of students are aware to always keep their immunity by applying Life Behavior Clean and Healthy. There was no correlation between sociodemographic and precautionary measures because the rho value ranges from –0.132 to 0.239. This showed that precautionary measures were not influenced by gender, university, faculty, and academic level/year, but influenced by the individual's need to take precautionary measures to protect them from Covid-19. More than 60% of participants always follow the health protocols recommended by the Indonesian government, although 0.8–2.4% were not following the government's recommendations.

Attitude during an activity at home

Stay at home and restricted public activity are implemented as one of ways to prevent the spread of the coronavirus in Indonesia. This policy impacts all activities to be carried out at home. The attitude during an activity at home was measured to investigate the feeling of the student towards their activities at home. The result shows that 60.2% of the student are often feeling bored. Recent theorizing states that boredom as a signal to change behavior.[10] The theory says that boredom is thought to trigger behavior change through changing the value of the ongoing activity and increasing orientation towards more useful alternative behaviors.[10] Therefore, students feeling bored by activities at home during the pandemic might be caused by the available activity options become less attractive, while attention for more rewarding alternatives increases.[11] For example, watching TV every day at home is likely to become less attractive over time, while the happiness of going out with friends will become ever more.[11] It also can be seen that 45.9% of students always do work in bed and 60.4% rarely or sometimes

dress up and show up in the online meetings. Only 41.1% of students create a comfortable work zone at home to ward off boredom. Boredom and doing work from home in bed indicate the need for a breakthrough in online learning. The teacher can direct their students to take part in free informal and non-formal learning available on the Internet, such as videos, MOOCs, wikis, and other Open Education Resources.[12] The relationship between sociodemographic and the attitude during activities at home was no correlation because the rho value ranges from –0.088 to 0.122. This was because limited activities at home will increase boredom and encourage individuals to carry out activities in bed, especially individuals with lower middle economic conditions who have less space for activities compared to established economies.

Online class activity

As a consequence of the restriction on public activities, all of the school activities must be done at home by online class. Over 60 million students in Indonesia are temporarily out of school due to Covid-19, impacting their education in unprecedented ways.[13] The students have been doing online learning by attending online classes and doing all activities at home as much as possible. Table 4 shows that 59.4% of students agree that online class is the best choice during this pandemic, although 70.2% think that online class can only transfer knowledge not transfer skill and 83.3% agree that online class makes social interaction not optimal. The online class forces us to communicate through online media making the interaction between one individual and other individuals lack the meaning of non-verbal communication. The implication is increasing anxiety and boredom because there is no interpersonal communication.[14] It can be seen that less than 17% of students can enjoy and be comfortable with online classes, and 52.5% agreed that they had difficulties in understanding the learning material in online courses. Moreover, 81.4% of participants agreed that the class should be conducted face-to-face. Obstacles in online learning are the use of teaching materials, student interaction, and a learning atmosphere.[15] The learning environment must be able to create calm and motivate better learning.[16] Students in the class generally have a better spirit when they have friends who are active in studying. This is difficult to achieve when learning online without interaction between individuals. There was no correlation between sociodemographic and online class activities because the rho value ranges from –0.057 to 0.169. This was because all participants experienced the same situation due to the Covid-19 pandemic, namely online lectures for 10–12 months. Until now, online learning is still an option in Indonesia, because cases of Covid-19 are still increasing. This is because even though the vaccination program has started, it still requires improvement of vaccine availability and healthcare capacity for optimal protection of people.[17]

Productive activity during a stay at home

Finally, we investigated the productivity of the student during doing activities at home to see if they can stay productive during the pandemic Covid-19. Firstly, 38.5% of the students can do many positive activities at home and 45.1% can find new hobbies to spend time at home (Table 5). More than 30% of them like cooking, reading, and playing games. Other responses show some of them also like gardening, writing, and physical exercise. Bowen and Watson (2017) recommended that students get to sleep, water, exercise, eat, and time (SWEET) for maintaining life balance.[18] Spending time with positive activities can increase productivity and help stressed maintenance to make life more meaningful. More than 30% of students say that they can

stay productive even at home. Even though they feel bored with all activities carried out at home, 63.5% of students feel more grateful during a pandemic may be because they can get closer to family, help each other, and stay enthusiastic and productive. Several strategies for staying productive during the Covid-19 crisis are building resilience through virtual connection,[19] writing, being confident, and acknowledging the stress.[20] There was no correlation between sociodemographic and productivity activity during a stay at home because the rho value ranges from –0.245 to 0.075. This was due to limited activities outside the home, so each individual must develop hobbies and creativities to reduce boredom and remain enthusiastic about carrying out activities at home.

The limitation of this study was the survey conducted on students in West Java Province, hence the results may not be generalizable to Indonesia. A bigger population is needed to expand upon and resolve these issues. In addition, this study uses an online survey, where the participant with biases may select themselves into the sample.

Conclusions

In conclusion, even though Covid-19 pandemic has been running for almost a year, students are still carrying out health protocols such as wearing a face mask, washing hands, social distancing, and staying at home as much as possible as a precautionary measure. However, they attitude are feeling bored with online activity and hope they can get class offline again to interact with other students. During a stay at home, more than 30% of students can stay productive maybe by doing positive activities and finding new hobbies like reading, writing, cooking, and gardening. They also feel more grateful and get closer to their family.

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Conflict of Interest

The authors declare no conflict of interest.

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