



Analysis of The Impact of Synchronous Physical Education Online Learning on The Character, Psychology, And Physiology of High School Students in Yogyakarta

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Abstract. The corona virus pandemic resulted in numerous issues in various sectors. It appears that the pandemic will not end due to the arrival of a new virus strain caused by the mutation of the covid19 virus. The purpose of this study is to determine the extent to which synchronous online physical education has a negative impact on aspects of character such as discipline and honesty, psychological aspects such as concentration and agitation/irritability, and physiological aspects such as impaired bodily functions for high school/vocational high school students in DIY. Purposive sampling was used to collect the sample for this study. Based on respondents' answer The average in the discipline category is 50.32%. In terms of honesty, the average is 39.88%. On the subject of concentration, the average is 66.91%. The average level of agitation / irritability is 48.12%. Aspect of impaired body function are as follows The average for 54.96%. Several points can be drawn from the research's findings and discussion: 1) The negative impact of synchronous physical education learning on aspects of disciplinary character is included in the medium category, which is also supported by interview data that students when learning online do their assignments only by editing and that students are sometimes impolite in communicating with teachers when learning occurs; 2) The negative impact on the honesty aspect is included in the medium category, which is also supported by interview data that students in online learning just modify or copy files from their friends; 3) The negative influence on the aspect of students concentrate is significant which is supported by interview data showing that students do not understand the subject matter and their concentration suffers; 4) In terms of agitation, the negative impact is in the medium range, which is confirmed by the results of interviews, which show that students frequently complain because there are constant tasks, so they want all of their requests to be granted, and as a result, they become increasingly selfish. 5) The negative impact on the aspect of functional impairment is moderate, which is supported by the results of the interviews, which show that students sometimes have headaches, pins and needles from spending too much time in front of laptops, and often sleep at home up to three times a day during a pandemic.

Keywords: synchronous, physical education, character

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1. Introduction

The corona virus pandemic resulted in numerous issues in various sectors. It appears that the pandemic will not end due to the arrival of a new virus strain caused by the mutation of the covid19 virus. these adds to a long list of questions regarding when conditions like these will come to an end As a result of these conditions, the government established restrictions on people's mobility, which had an impact on the education sector. During the emergency time of the coronavirus spread, learning was required to be done synchronously online in order to limit mobility and prevent transmission of the covid19 virus [1]

Synchronous online learning is presently seen as a temporary option to ensure that the learning process for all courses may continue in the midst of the Covid 19 pandemic social restriction policy. Synchronous online learning is intended to serve students of various educational backgrounds, ages, and locations. [2]. One of the effects of synchronous online learning is that it encourages students to carry out learning activities autonomously, supported by learning resources from online journal articles/e-books and the teacher as a facilitator in learning. Synchronous online policies in learning activities have various implications, and if used constantly during a pandemic, students will suffer unfavorable psychological and physiological consequences. These negative effects will undoubtedly be hazardous because continual online learning might generate stress in students [3]

The stress created by synchronous online learning will be reflected in students' psychological responses. This, of course, can have an impact on student productivity and mental health. The effects of online learning on students are as follows: light stress levels for men and women aged 17-19 years were 7% and 4%, respectively, whereas severe stress levels for men and women aged 17-19 years were 93% and 96% [4]Meanwhile, the psychological responses based on the research findings are as follows: Of the 82 respondents, 70.7 percent reported neck pain, 57.3 percent reported tingling, 76.8% reported back pain, 72 percent reported headaches, 50 percent reported impaired vision, 29.3% reported stomach pain, 15.9% reported a lack of balance, and 7.3% reported no physical problems [5]

Several previous studies on synchronous online learning have provided some information, but none have focused on revealing the negative impact of synchronous online learning on physical education in terms of character, psychology, and physiology of high school/vocational school students in Yogyakarta. Therefore, additional research is required to gather more detailed information on this subject. As a result, the purpose of this study is to analyze the negative impact of synchronous physical education learning on five factors: 1) discipline; 2) honesty; 3) concentration; 4) agitation/irritability; and 5) impaired body function. The purpose of this study is to: 1. Determine the psychological, physiological, and anatomical problems produced by synchronous online learning on students in Yogyakarta.

2 Method

This research is a combination of quantitative and qualitative studies conducted concurrently, but the weight of the methods is different; the primary

method is used to obtain the main data, and the secondary method is used to obtain data to support the primary method data [6]. The purpose of this study is to determine the extent to which synchronous online physical education has a negative impact on aspects of character such as discipline and honesty, psychological aspects such as concentration and agitation/irritability, and physiological aspects such as impaired bodily functions for high school/vocational high school students in DIY. Purposive sampling was used to collect the sample for this study. Purposive sampling is a sampling approach with specified constraints [7]. The quantitative sample comprised of 62 high school/vocational high school student responders from the DIY Provincial Education Office

The study took place between July and September of 2022. The substance content of the impact of PE synchronous online learning on the character, psychological, and physiological components of high school/vocational school students was used to build quantitative instruments. Quantitative instruments employ a Likert scale of 1 to 5, with answer options constructed as follows: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Always. The instruments were developed in consultation with experts and were based on the theory and content of the research variables.

Before being employed in research, the instrument was evaluated for validity (product moment pearson correlation) and reliability (cronbach's alpha). Based on the product moment pearson correlation test, the results of the validity test aspects of discipline (x1), honesty (x2), concentration (x3), agitation/irritability (x4), and impaired body function (x5) on all question items have a greater r-count value than the r-table value of 0.254 at a significance level of 5%, which means that every question items are declared valid (table 2).

Table 1. Validity

Value r_{table}	Value r_{count}	Desc	Item	Value r_{table}	Value r_{count}	Desc
0.254	0.708	Valid	X3.1	0.254	0.869	Valid
0.254	0.507	Valid	X3.2	0.254	0.886	Valid
0.254	0.514	Valid	X3.3	0.254	0.872	Valid
0.254	0.687	Valid	X3.4	0.254	0.888	Valid
0.254	0.738	Valid	X3.5	0.254	0.849	Valid
0.254	0.604	Valid	X3.6	0.254	0.786	Valid
0.254	0.747	Valid	X3.7	0.254	0.777	Valid
0.254	0.638	Valid	X4.1	0.254	0.628	Valid
0.254	0.811	Valid	X4.2	0.254	0.898	Valid
0.254	0.704	Valid	X4.3	0.254	0.886	Valid
0.254	0.758	Valid	X4.4	0.254	0.851	Valid
0.254	0.813	Valid	X4.5	0.254	0.785	Valid
0.254	0.540	Valid	X5.1	0.254	0.735	Valid
0.254	0.801	Valid	X5.2	0.254	0.798	Valid
0.254	0.612	Valid	X5.3	0.254	0.778	Valid
0.254	0.842	Valid	X5.4	0.254	0.626	Valid
0.254	0.701	Valid	X5.5	0.254	0.738	Valid

3 Result

3.1 Discipline

Three aspects were examined in this study to see how the negative effects of synchronous online learning for physical education on high school/vocational school students in DIY affects the following: 1) discipline; 2) honesty; 3) concentration; 4) agitation/irritability; and 5) impaired body function.

Based on (Table 2), the findings of the respondents' answer scores (N = 62) on the discipline aspect are shown in this study, namely: (X1.1) since synchronous online learning, I feel 63% less motivated to complete class tasks, (X1.2) since synchronous online learning, I don't feel guilty if I violate the rules by 43.8%, (X1.3) since synchronous online learning, I perceive the teacher's rules to limit my freedom by 46.8%. (X1.4) Since synchronous online learning, I find it difficult to submit assignments on time by 54.8%, (X1.5) since synchronous online learning, I find it difficult to follow all learning activities in class by 56.4%, (X1.6) since synchronous online learning, I will look for reasons to be able to skip lessons during class at 32.6%, (X1.7), Since synchronous online learning, I do not pay attention to the explanation of the material delivered by the teacher at 50.6%, (X1.8) since synchronous online learning, I am 54.6% more passive during lesson discussions, (X1.9) since synchronous online learning, I daydream during learning activities, and (X1.10) since synchronous online learning, I am 47% more interested in talking with friends during the learning process. The average in the discipline category is 50.32%. This descriptive data demonstrates the adverse effects of synchronous online learning for physical education on high school/vocational school students' discipline in DIY.

This is also reinforced by the results of interviews with Physical Education teachers, who stated that "students in online learning do assignments only by editing copies of their friends' files." Counseling Guidance Teacher stated, "Sometimes in learning, students are being impolite while communicate with the teacher."

Table 2. Character (Discipline)

X1	Percentage										Mean	Item %
	Never		Rarely		Sometimes		Often		Always			
	f	%	f	%	f	%	f	%	f	%		
X1.1	7	11.3	10	16.1	19	30.6	19	30.6	7	11.3	3.15	63
X1.2	17	27.4	25	40.3	14	22.6	3	4.8	3	4.8	2.19	43,8
X1.3	13	21.0	23	37.1	20	32.3	4	6.5	2	3.2	2.34	46,8
X1.4	10	16.1	19	30.6	16	25.8	11	17.7	6	9.7	2.74	54,8
X1.5	12	19.4	15	24.2	14	22.6	14	22.6	7	11.3	2.82	56,4
X1.6	35	56.5	18	29.0	7	11.3	1	1.6	1	1.6	1.63	32,6
X1.7	11	17.7	25	40.3	15	24.2	4	6.5	7	11.3	2.53	50,6
X1.8	12	19.4	14	22.6	21	33.9	9	14.5	6	9.7	2.73	54,6
X1.9	10	16.1	22	35.5	16	25.8	6	9.7	8	12.9	2.68	53,6
X1.10	12	19.4	26	41.9	16	25.8	6	9.7	2	3.2	2.35	47
Percentage %											50,32	

3.2 Honesty

Based on (Table 3), the findings of the respondents' answer scores (N = 62) on the honesty aspect are as follows: (X2.1) Since synchronous online learning, I don't hesitate to ask friends for help if I'm having difficulty answering exam questions at 47.8%, (X2.2) Since synchronous online learning, it's easy for me to help other friends by giving exam answers to them by 40.6%, (X2.3) Since synchronous online learning, it's easy for me to find reasons to defend myself if I don't do lesson assignments by 40%, (X2.4) Since synchronous online learning, I prepared notes for cheating before exams at 32.6%, (X2.5) since synchronous online learning, I did full copy and paste when doing class assignments at 44.6%, (X2.6) since synchronous online learning, I use social media to ask friends for answers to exam questions at 44.8%, and (X2.7) since synchronous online learning, I copy assignments belonging to other groups and then replace them with my name at 28.8%. In terms of honesty, the average is 39.88%. These descriptive statistics demonstrate the harmful influence of synchronous online physical education assignments on the honesty of high school/vocational school students in DIY. This is further corroborated by the findings of an interview with the physical education teacher, who stated: "children in: "Students in online learning complete assignments that are merely edits of files copied and pasted from their friends."

Table 3. Character Honesty

X2	Percentage										Mean	Item %
	Never		Rarely		Sometimes		Often		Always			
	f	%	f	%	f	%	f	%	f	%		
X2.1	20	32.3	12	19.4	18	29.0	10	16.1	2	3.2	2.39	47,8
X2.2	23	37.1	18	29.0	17	27.4	4	6.5	0	0	2.03	40,6
X2.3	21	33.9	25	40.3	13	21.0	1	1.6	2	3.2	2.00	40
X2.4	35	56.5	16	25.8	10	16.1	1	1.6	0	0	1.63	32,6
X2.5	17	27.4	22	35.5	16	25.8	6	9.7	1	1.6	2.23	44,6
X2.6	19	30.6	16	25.8	21	33.9	5	8.1	1	1.6	2.24	44,8
X2.7	42	67.7	14	22.6	5	8.1	1	1.6	0	0	1.44	28,8
Percentage %											39,88	

3.3 Concentration

According to (Table 4), this study shows the results of the respondent's answer score (N = 62) on the concentration aspect, namely: (X3.1) since synchronous online learning, I have difficulty concentrating by 70.4%, (X3.2) since synchronous online learning, I find it difficult to pay full attention when the learning process is taking place at 68.4%, (X3.3) since synchronous online learning, I am unable to focus on lessons continuously at 70.6%, (X3.4) Since synchronous online learning, I have found it difficult to follow the teacher's instructions by 61.6%, (X3.5) since synchronous online learning, I have found it difficult to organize lesson assignments by 59.4%, (X3.6) since synchronous online learning, I easily daydream by 62.6%, and (X3.7) since synchronous online learning, I have found it easy to fall asleep by 75.4%. On the subject of concentration, the average is 66.91%. These descriptive statistics demonstrate the negative impact of synchronous online physical education

learning on high school/vocational school students' focus in DIY. This is strengthened by the outcomes of interviews with Counseling Guidance teachers (BP), who claimed, "Students do not understand the subject matter, and concentration worsens as a result."

Table 4. Concentration

X3	Percentage										Mean	Item %
	Never		Rarely		Sometimes		Often		Always			
	f	%	f	%	f	%	f	%	f	%		
X3.1	5	8.1	6	9.7	19	30.6	16	25.8	16	25.8	3.52	70,4
X3.2	4	6.5	8	12.9	21	33.9	16	25.8	13	21.0	3.42	68,4
X3.3	6	9.7	5	8.1	19	30.6	14	22.6	18	29.0	3.53	70,6
X3.4	5	8.1	14	22.6	20	32.3	17	27.4	6	9.7	3.08	61,6
X3.5	9	14.5	12	19.4	22	35.5	10	16.1	9	14.5	2.97	59,4
X3.6	9	14.5	12	19.4	14	22.6	16	25.8	11	17.7	3.13	62,6
X3.7	3	4.8	6	9.7	11	17.7	24	38.7	18	29.0	3.77	75,4
Percentage %											66,91	

3.4 Agitation/Irritability

Based on (Table 5), this study shows the results of the respondent's answer score (N = 62) on the agitation/irritability aspect, namely: (X4.1) since synchronous online learning, I am 49.6% more sensitive to friends' words, (X4.2) since synchronous online learning, I get angry easily for no reason at 52.6%, (X4.3) since synchronous online learning, I cannot manage my emotions by 52%, (X4.4) since synchronous online learning, I feel angry with a very strong intensity of 43.8%. and (X4.5) since synchronous online learning, I express anger negatively by 42.6%. The average level of agitation / irritability is 48.12%. These descriptive statistics suggest that synchronous online physical education learning has a negative effect on the agitation/irritability of DIY high school/vocational school students. This is reinforced by the outcomes of interviews with Counseling Guidance teachers, who claimed that "students frequently complain because there are never-ending assignments." Parents of students have also stated that "children find it difficult to find an internet signal, so sometimes they get angry, they want everything they need to be fulfilled, and they grow increasingly selfish."

Table 5. Agitation/Irritability

X4	Percentage										Mean	Item %
	Never		Rarely		Sometimes		Often		Always			
	f	%	f	%	f	%	f	%	f	%		
X4.1	16	25.8	17	27.4	16	25.8	9	14.5	4	6.5	2.48	49,6
X4.2	12	19.4	13	21.0	24	38.7	12	19.4	1	1.6	2.63	52,6
X4.3	14	22.6	13	21.0	21	33.9	12	19.4	2	3.2	2.60	52
X4.4	18	29.0	24	38.7	11	17.7	8	12.9	1	1.6	2.19	43,8
X4.5	20	32.3	23	37.1	11	17.7	7	11.3	1	1.6	2.13	42,6
Percentage %											48,21	

3.5 Impaired Body Functions

Based on (Table 6), the results of the respondent's answer score (N = 62) on the aspect of impaired body function are as follows: (X5.1) I easily experience pins and needles by 62.6% since synchronous online learning, (X5.2) my vision is easily dispersed by 57% since synchronous online learning, (X5.3) I easily lose balance by 45.2% since synchronous online learning, (X5.4) I fall easily by 38.4% since synchronous online learning, and (X5.5) I easily experience fatigue by 71.6% since synchronous online learning. The average for impaired body function is 54.96%. The descriptive statistics suggest that synchronous online physical education learning has negative effects on the physiology (impaired bodily functions) of DIY high school/vocational school students. This is also confirmed by the results of an interview with a physical education teacher, who stated: "Students occasionally have headaches, pins and needles because they spend too much time in front of the laptop." The student's parents also mentioned, "My child frequently sleeps at home and can do so up to three times a day during a pandemic."

Table 6. Impaired body functions

X5	Percentage										Mean	Item %
	Never		Rarely		Sometimes		Often		Always			
	f	%	f	%	f	%	f	%	f	%		
X5.1	7	11.3	14	22.6	17	27.4	12	19.4	12	19.4	3.13	62,6
X5.2	10	16.1	17	27.4	17	27.4	8	12.9	10	16.1	2.85	57
X5.3	17	27.4	24	38.7	12	19.4	6	9.7	3	4.8	2.26	45,2
X5.4	23	37.1	27	43.5	8	12.9	2	3.2	2	3.2	1.92	38,4
X5.5	6	9.7	6	9.7	17	27.4	12	19.4	21	33.9	3.58	71,6
Percentage %											54,96	

4 Discussion

Basically, this study aims to determine the severity of the negative impact of synchronous physical education learning on the following aspects of SMA/K students in DIY: 1) discipline; 2) honesty; 3) concentration; 4) agitation/irritability; and 5) impaired body function since synchronous online learning was implemented during the Covid 19 pandemic[8]. The quantitative study of the discipline component revealed that most of the respondents' answers to the indicators/questions fell into the sufficient/moderate category, with a value less than 60%. Based on quantitative descriptive statistics, the average value of the level of negative impact on areas of student discipline is 50.32% in the range 41-60%, placing it in the moderate group. This descriptive statistic depicts the level of negative impact on the aspect of student discipline in the moderate category [9]. This is strengthened by the findings of interviews with Physical Education teachers and Counseling Guidance teachers: "students in online learning do assignments only by editing, copying, and pasting their friends' files," and "students are sometimes impolite in communicating with teachers." [10]. The quantitative analysis of the aspect of honesty reveals that the respondents' answers to all indicators/questions are in the moderate category, with a value less than 60%. Based on quantitative descriptive statistics, the average value of

the level of negative impact on the student's honesty aspect is 39.88%, which falls in the moderate category. This descriptive statistic shows the severity of negative impact on students in the moderate category's honesty [11]. This was strengthened by the results of interviews with physical education teachers, who indicated that "students in online learning only do the assignments by editing and copying their friends' file.[12]"

According to the results of the quantitative analysis on the concentration aspect, as detailed in the research results sub-section, [13]the respondents' answers to all indicators/questions are in the high category, with a value more than 61%. Based on quantitative descriptive statistics, the average value of the level of negative influence on aspects of student focus is 66.91%, which falls into the high category [14]. This is also supported by the outcomes of physical education teacher interviews, which revealed that "students do not understand the subject matter, and their concentration decreases." [15]

The quantitative analysis of the agitation /irritability aspect revealed that the respondents' responses to all indicators fell into the moderate range, with a value less than 60%. Based on quantitative descriptive statistics, the average value of the amount of negative influence on the aspect of agitation is 48.12% in the range of 61-80%, placing it in the moderate group. This descriptive statistic depicts the level of negative impact on students' agitation/irritability in the medium category [16]. This is also reinforced by the results of interviews with Counseling Guidance teachers, who stated: "Students frequently complain because there are never-ending assignments[17]."

While the students' parents also claimed that "when it is difficult for children to find an internet signal, they sometimes get angry, they want all of their wishes to be fulfilled, and they become increasingly selfish"[18].

The quantitative study of impaired body functions revealed that the respondents' answers to all indicators/questions were in the sufficient/moderate category, with a value less than 60%. Based on quantitative descriptive statistics, the average value of the level of negative influence on areas of impaired body functions is 54.96% in a range of 41-60%, placing it in the sufficient/moderate group. In the moderate group, this descriptive statistic reveals the extent of negative impact on aspects of students impaired body functions [1]. This is strengthened by the outcomes of interviews with physical education teachers, who claimed that "students occasionally have headaches and tingling because they spend too much time in front of the laptop [19]." While the students' parents also stated, "In fact, my child frequently sleeps at home and can do so up to three times a day during a pandemic."

5 Conclusion

Several points can be drawn from the research's findings and discussion: 1) The negative impact of synchronous physical education learning on aspects of disciplinary character is included in the medium category, which is also supported by interview data that students when learning online do their assignments only by editing and that students are sometimes impolite in communicating with teachers when learning occurs; 2) The negative impact on the honesty aspect is included in the medium category, which is also supported by interview data that students in online learning just modify or copy files from their friends; 3) The negative influence on the aspect of

students concentrate is significant which is supported by interview data showing that students do not understand the subject matter and their concentration suffers; 4) In terms of agitation, the negative impact is in the medium range, which is confirmed by the results of interviews, which show that students frequently complain because there are constant tasks, so they want all of their requests to be granted, and as a result, they become increasingly selfish. 5) The negative impact on the aspect of functional impairment is moderate, which is supported by the results of the interviews, which show that students sometimes have headaches, pins and needles from spending too much time in front of laptops, and often sleep at home up to three times a day during a pandemic.

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Conflict Of Interest

No conflict of interest

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