



Attitudes of High Special School Students with Hearing Impairment to Online Adaptive Physical Education Learning

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ABSTRACT

The aim of this research is to investigate the attitudes of deaf special high school students towards online adaptive physical education learning. To find out the attitude of high school hearing impairment students towards adaptive physical education online learning, a method that was used in this research was a survey method at high special needs school in Bandung, while the data collection using a questionnaire. The results show that the attitude of high school students with hearing impairment towards online learning of physical education adaptive shows that 12.50% are included in the category very good, 12.50% included in the good category, 50% included in the category quite good, 12.50% is included in the poor category, 12.50% is included in the very poor category. Hopefully, subject teacher adaptive physical education can continue to provide motivation and understanding to students about the importance of adaptive physical education and creativity in teaching adaptive physical education though online thus students can be interested and show a very good attitude.

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1. INTRODUCTION

In the current Covid-19 pandemic situation the educational of adaptive physical becomes very important, both for students who attend school regularly and also students who attend special schools to support physical health (Jeong & So, 2020; Margaritis et al., 2020). Health plays an important role in supporting human activities daily. Lifestyle in the era of technology and information is now coming to affect people's lifestyles. The lack of sports activities among society influences people's interest in sports (Renalds et al., 2010; Hutzler et al., 2019). This matter impacts children's interest in sports because of the environment family does not get used to exercising. Lack of awareness of exercising in family life makes physical education an important subject in the expected formal education system can raise public awareness and interest in sports from an early age (Trott & Weinberg, 2020; Constandt et al., 2020).

Based on current conditions, where the pandemic situation is still peaking, adaptive physical education needs to be implemented because this subject is learning through movement activities, whether it relates cognitive, affective, or psychomotor adapted to student especially for students with special needs (Kristiyanto & Legowo, 2019; Maryanti et al., 2020). Although hearing impairment students do not experience physical and motor barriers, there must still be adjustments to adaptive physical education learning in school. Because, the hearing loss experienced by children varies levels, ranging from mild to very heavy (Wang, 2019). This hearing impairment condition has an impact on its development in a complex way, does not only in communication, but also in other aspects such as cognitive, emotional, and social (Guthrie et al., 2018; Slade et al., 2020; Holt et al., 2020). Therefore, there is a need for adjustments in the development of potential and learning for hearing impairment students minimize the impact of the obstacles faced.

The aims of this study, was to investigate students' attitudes during physical learning for hearing impairment students because attitude is one of the factors that influence student learning outcomes. Student attitudes in learning as one aspect of the assessment of learning outcomes. This is an important point that students should pay attention to. Thus, students need to develop a positive learning attitude to get good learning outcomes.

2. METHOD

This research is a quantitative descriptive study to find out about high school hearing impairment students' attitudes in adaptive physical education online learning in one of the special high schools in Bandung. The research subjects were hearing impairment students in the first, second, and third grades in special high schools.

In this study, the technique and data collection used a questionnaire to find out the attitude component (i.e., cognitive, affective, and conative components). The questionnaire is filled out by the respondent by giving a checklist (v) in the appropriate column, with a direct questionnaire using a graded scale. The stratified scale in this questionnaire uses Likert scale modification with 4 answer choices. For the positive answer, strongly agree (score 4), agree (score 3), disagree (score 2), and strongly disagree (score 1). The score is inversely proportional if the answer is negative. The test questionnaire grid is presented in **Table 1**.

Table 1. The test questionnaire grid.

Core competencies	Basic competencies	Indicator	Item number	Total
Attitude is a level of affection both positive (happy) and negative (not happy). There are several components of attitude, namely: cognitive, affective, and conative.	Cognitive	Warming up session	1*, 2, 3*, 4, 5*, 6*, 7.	7
		Exercise session	16, 17*, 18*, 19, 20*, 21, 22	7
		Cooling session	30, 31*, 32*, 33	4
	Affective	Warming up session	8*, 9*, 10, 11, 12*	5
		Exercise session	23*, 24, 25, 26	4
		Cooling session	34*, 35, 36, 37*	4
	Conative	Warming up session	13*, 14, 15	3
		Exercise session	27, 28, 29*	3
		Cooling session	38, 39*, 40*	3
Total				40

Note: *) Negative questions

3. RESULTS

Overall, the results of research on the attitudes of hearing impairment students in high special school on online learning adaptive physical education obtained a maximum score of 126 and a minimum score of 93 out of 40 items with a score of 1 to 4. The average obtained is 109.38, and the standard deviation is 10.253 deviation. Furthermore, the data are categorized according to the formula that has been determined into 5 categories, namely very good category, good, good enough, less good, very poor, based on the mean and standard deviation. The distribution of the attitude of deaf students of special high schools towards online learning of physical education adaptive is presented in **Table 2**.

Table 2. Frequency distribution of high school hearing impairment students' attitudes towards learning online adaptive physical education.

No	Interval	Category	Frequency	Relative Frequency
1	$125 < X$	Very Good	1	12.50%
2	$115 < X \leq 125$	Good	1	12.50%
3	$104 < X \leq 115$	Good Enough	4	50%
4	$94 < X \leq 104$	Not Good	1	12.50%
5	$X \leq 94$	Very Not Good	1	12.50%
Total			8	100%

Based on **Table 2**, data on the attitudes of deaf students are obtained to online learning adaptive physical education, namely, 1 student (12.50%) has a very good attitude, 1 student (12.50%) has a good attitude, 4 students (50%) had a pretty good attitude, 1 student (12.50%) had a bad attitude, and 1 student (12.50%) had a very bad attitude. Frequency most lies in the interval with a fairly good category, namely 4 students (50%), it can be said that the attitude of high school deaf students towards online learning adaptive physical education overall are in the category of good enough for more details can be seen in the histogram image in **Figure 1**.

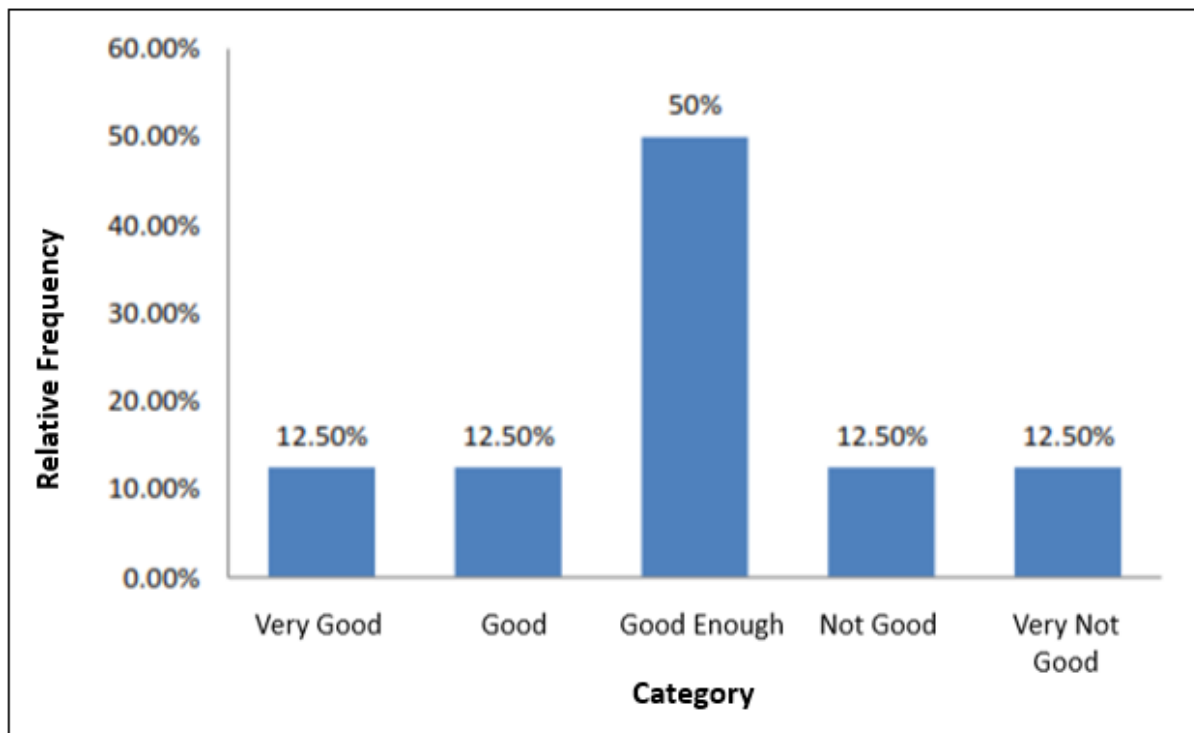


Figure 1. The influence of online learning on students.

3.1. Cognitive Factor

Attitudes of deaf students towards online learning education adaptive physical in terms of cognitive factors obtained value a maximum of 56 and a minimum value of 40 out of 18 items. Average obtained of 47.88 and a standard deviation of 5.693. Cognitive factor frequency distribution is presented in **Table 3**.

Table 3. Frequency distribution of cognitive factors.

No	Interval	Category	Frequency	Relative Frequency
1	$55 < X$	Very Good	1	12.50%
2	$51 < X \leq 55$	Good	1	12.50%
3	$45 < X \leq 51$	Good Enough	3	37.50%
4	$41 < X \leq 45$	Not Good	2	25%
5	$X \leq 41$	Very Not Good	1	12.50%
Total			8	100%

Based on the table above, it appears that 1 student (12.5%) has an attitude of very good, 1 student (12.50%) had a good attitude, 3 students (37.50%) had attitude is quite good, 2 students (25%) are not good, and 1 student (12.50%) is very poor good. The most frequency lies in the interval with a fairly good category, namely 3 students (37.50%), it can be said that the attitude of hearing impairment students in special high school on online learning of adaptive physical education in terms of cognitive factors is quite good. For more details, see the histogram image in **Figure 2**.

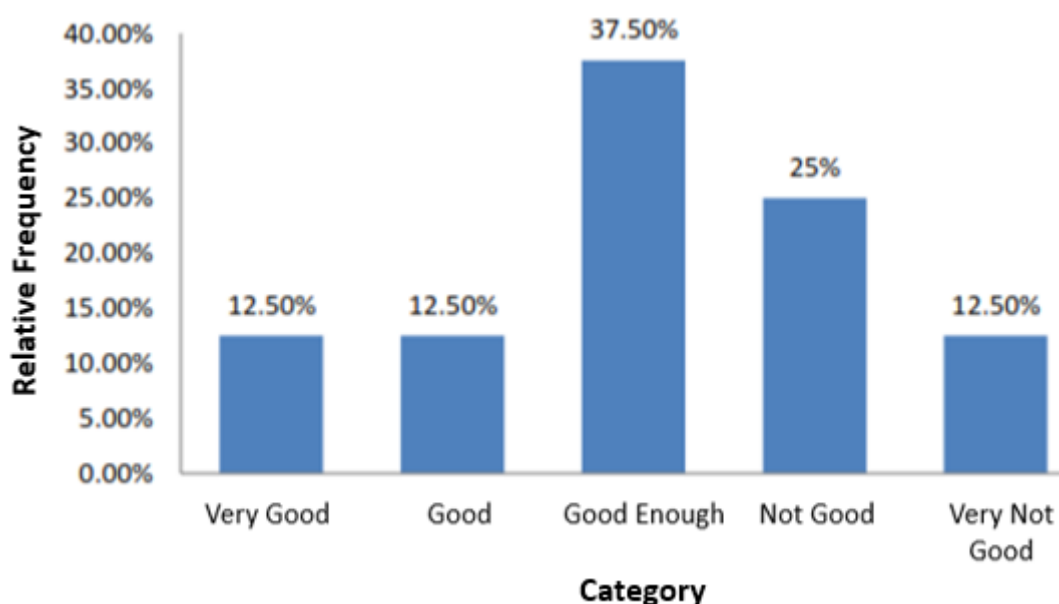


Figure 2. Percentage of cognitive factors.

3.2. Affective Factor

Attitudes of high school hearing impairment students towards online learning education adaptive physical in terms of affective factors obtained value a maximum of 41 and a minimum value of 32 out of 13 items. The mean obtained is 36.25 and the standard deviation is 3.059. Affective factor frequency distribution presented in **Table 4**.

Table 4. Frequency distribution of affective factors.

No	Interval	Category	Frequency	Relative Frequency
1	$41 < X$	Very Good	1	12.50%
2	$38 < X \leq 41$	Good	3	37.50%
3	$35 < X \leq 38$	Good Enough	1	12.50%
4	$32 < X \leq 35$	Not Good	3	37.50%
5	$X \leq 32$	Very Not Good	0	00.00%
Total			8	100%

Based on the table above, it appears that 1 student (12.50%) has an attitude of very good, 3 students (37.50%) had a good attitude, 1 student (12.50%) had attitude is quite good, 3 students (37.50%) are not good enough, and 0 students (0.00%) are very poor good. The most frequency lies in the interval with a fairly good category, namely 3 students (37.50%), it can be said that the attitude of hearing impairment students in special high school in online learning adaptive physical education in terms of affective factors is good. For more details, see the histogram image in **Figure 3**.

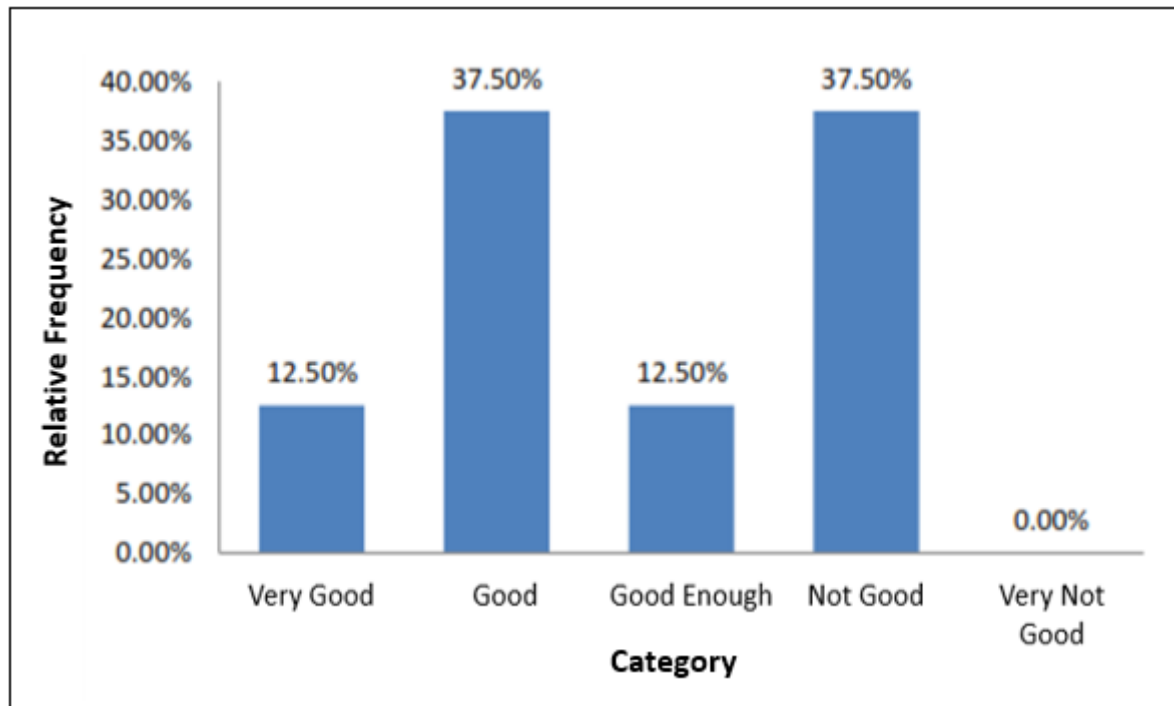


Figure 3. Percentage of affective factors.

3.3. Conative Factor

Attitudes of deaf students towards online learning education adaptive physical in terms of conative factors obtained value a maximum of 29 and a minimum value of 19 out of 9 items. Average obtained of 25.25 and a standard deviation of 3.770. Conative factor frequency distribution is presented in **Table 5**.

Table 5. Frequency distribution of conative factors.

No	Interval	Category	Frequency	Relative Frequency
1	$31 < X$	Very Good	0	00.00%
2	$27 < X \leq 31$	Good	4	50%
3	$23 < X \leq 27$	Good Enough	2	25%
4	$19 < X \leq 23$	Not Good	2	25%
5	$X \leq 19$	Very Not Good	0	00.00%
Total			8	100%

Based on the table above, it appears as many as 0 students (0.00%) have an attitude very good means that there are no students who get a very good attitude, 4 students (50%) have a good attitude, 2 students (25%) have a pretty good attitude, 2 students (25%) not very good, and 0 students (0.00%) very bad. Most frequency lies in the interval with a good category, namely 4 students (50%), then it can be it is said that the attitude of hearing impairment students towards online learning adaptive physical education in terms of conative factors is good. More details can be seen in the histogram image in **Figure 4**.

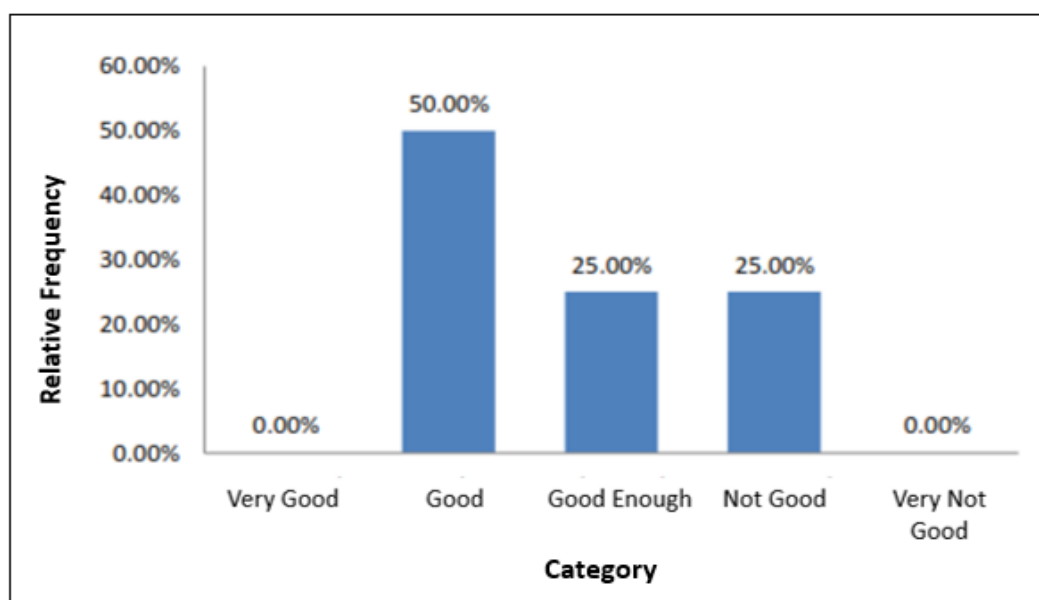


Figure 4. Percentage of conative factors.

4. DISCUSSION

Cognitive factors in this study are components related to knowledge, views, and beliefs about objects (Sanbonmatsu *et al.*, 2018; Zhou *et al.*, 2020). Cognitively impaired hearing students show a positive attitude quite good for adaptive physical education online learning. This is shown from the students who chose the answer strongly agree with the statement item that warm-up is done to prepare the muscles before doing the activity more severe and they do not agree that physical education is harmful. It can be interpreted that high school hearing impairment students are quite good at their knowledge of adaptive physical education online learning in terms of warming up execution and cooling. The cognitive component contains students' perceptual abilities to object of attitude in responding by assessing good or bad attitude object involves thinking and reasoning. While views are assumptions students about the good or bad of the object of attitude and the scope of what is known about the object of attitude (Moss & O'Connor, 2020; Cherdymova *et al.*, 2018). By looking at the results of cognitive factor analysis, it can mean that cognitively students have good enough knowledge regarding online learning of adaptive physical education from the warm-up process, execution, and cooling, and then reflected in the form of views on adaptive physical education learning.

Affective factors are feelings of pleasure or displeasure with physical education learning, which is an individual tendency to be interested in an object or enjoy an object, the individual has not done activities or something that interests for oneself (Ekkekakis & Brand, 2019). This occurs when individuals are attracted to something because it suits their needs or feels that what will be felt is meaningful for them. Based on the results of the analysis, it can be seen that the high school hearing impairment students mostly have good feelings towards online learning adaptive physical education, this can be seen from the choice of answers in the questionnaire they choose the answer not agree if the warm-up is not done and statement I like to cool down (Holt *et al.*, 2020). Some of them show a feeling of displeasure or less good, it can be proven that the respondent answered strongly agree in the statement I agree if physical education learning removed. Lack of knowledge about the benefits of the educational

learning era makes students think physical education learning is not important. Adaptive physical education learning is very important for students, thus the task of adaptive physical education teachers who pay more attention to their students in learning and provide understanding to students about the importance of adaptive physical education learning for student's health and the benefits of physical education others, even if implemented online. Thus students have positive thoughts about learning physical education adaptive and take physical education lessons seriously (Kristiyanto & Legowo, 2019).

The conative factor in this study is a behavioral component, namely: components related to the individual's tendency to act to the object of attitude (Widjaja et al., 2020). Based on research results the conative factors above, it can be seen that the attitude of high school deaf students towards adaptive physical education online learning is good. The conative component is namely the embodiment of cognitive and affective components into something that spurs enthusiasm, concentration, and consistency of action or behavior. Someone who cognitively and effectively has a positive attitude towards something will manifest it in positive behavior (Gerdes & Stromwall, 2008). Thus it can be seen in the following statement, I did not follow the movement during the warm-up respondents answered strongly disagree with the statement and I following the warm-up movement earnestly respondents answered strongly agree.

The overall results show 4 students or 50% in the pretty good category, but if we look at the above calculations as a whole from very good to very poor category there are still some students who tend to be less good and very less good than good and very good students good (Hutzler et al., 2019). Adaptive physical education teachers are expected to provide motivation and understanding to students about the importance of adaptive physical learning as well as being as creative as possible in teaching adaptive physical education even though physically online; thus, students can be interested and show a pretty good attitude improved again to good and very good. Thus, students can show very good behavior during learning that can support the success of adaptive physical education learning (Renalds et al., 2010).

5. CONCLUSION

The result shows the attitude of high school hearing impairment students towards learning adaptive physical education online is good enough. Attitude next student is expected to develop not only well enough but also to good and very good. By improving the method or way of learning then the online learning process for adaptive physical education run smoothly good, thus the learning objectives of adaptive physical education work well.

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7. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

8. REFERENCES

- Cherdymova, E. I., Ukolova, L. I., Gribkova, O. V., Kabkova, E. P., Tararina, L. I., Kurbanov, R. A., and Kudrinskaya, I. V. (2018). Projective techniques for student environmental attitudes study. *Ekoloji*, 22(106), 541-546.

- Constandt, B., Thibaut, E., De Bosscher, V., Scheerder, J., Ricour, M., and Willem, A. (2020). Exercising in times of lockdown : An analysis of the impact of COVID-19 on levels and patterns of exercise among adults in Belgium . *International Journal of Environmental Research and Public Health*, 17(11), 4144.
- Ekkekakis, P., and Brand, R. (2019). Affective responses to and automatic affective valuations of physical activity: Fifty years of progress on the seminal question in exercise psychology. *Psychology of Sport and Exercise*, 42, 130-137.
- Gerdes, K. E., and Stromwall, L. K. (2008). Conation: A missing link in the strengths perspective. *Social Work*, 53(3), 233-242.
- Guthrie, D. M., Davidson, J. G., Williams, N., Campos, J., Hunter, K., Mick, P., and Wittich, W. (2018). Combined impairments in vision , hearing and cognition are associated with greater levels of functional and communication difficulties than cognitive impairment alone: Analysis of interRAI data for home care and long-term care recipients in Ontario. *PloS One*, 13(2), e0192971.
- Hutzler, Y., Meier, S., Reuker, S., and Zitomer, M. (2019). Attitudes and self-efficacy of physical education teachers toward inclusion of children with disabilities : A narrative review of international literature. *Physical Education and Sport Pedagogy*, 24(3), 249-266.
- Holt, R. F., Beer, J., Kronenberger, W. G., Pisoni, D. B., Lalonde, K., and Mulinaro, L. (2020). Family environment in children with hearing aids and cochlear implants : Associations with spoken language , psychosocial functioning , and cognitive development . *Ear and Hearing*, 41(4), 762.
- Jeong, H. C., and So, W. Y. (2020). Difficulties of online physical education classes in middle and high school and an efficient operation plan to address them. *International Journal of Environmental Research and Public Health*, 17(19), 7279.
- Kristiyanto, A., and Legowo, E. (2019). Adaptive physical education for children with special needs at lazuardi kamila elementary school. *Journal of ICSAR* , 3(2), 35-37.
- Margaritis, I., Houdart, S., El Ouadrhiri, Y., Bigard, X., Vuillemin, A., and Duché, P. (2020). How to deal with COVID -19 epidemic -related lockdown physical inactivity and sedentary increase in youth? adaptation of anses' benchmarks. *Archives of Public Health*, 78, 1-6.
- Maryanti , R., Hufad , A., Sunardi , S., Nandiyanto , A. B. D., and Al-Obaidi , A. S. M. (2020). Understanding covid-19 particle contagion through aerosol droplets for students with special needs. *Journal of Engineering Science and Technology*, 15(3), 1909-1920.
- Moss , J. T., and O'Connor , P. J. (2020). Political correctness and the alt-right : The development of extreme political attitudes. *PloS One*, 15(10), e0239259.
- Renalds, A., Smith, T. H., and Hale, P. J. (2010). A systematic review of built environment and health. *Family & Community Health*, 33(1), 68-78.
- Sanbonmatsu , D. M., Strayer , D. L., Yu, Z., Biondi , F., and Cooper , J. M. (2018). Cognitive underpinnings of beliefs and confidence in beliefs about fully automated vehicles . *Transportation Research Part F: Traffic Psychology and Behaviour*, 55, 114-122.

- Slade, K., Plack, C. J., and Nuttall, H. E. (2020). The effects of age-related hearing loss on the brain and cognitive function. *Trends in Neurosciences*, 43(10), 810-821.
- Wang, L. (2019). Perspectives of students with special needs on inclusion in general physical education : A social-relational model of disability. *Adapted Physical Activity Quarterly* , 36 (2), 242-263.
- Trott, C. D., and Weinberg , A. E. (2020). Science education for sustainability : Strengthening children 's science engagement through climate change learning and action . *Sustainability*, 12(16), 6400.
- Widjaja , I., Arifin, A., and Setini, M. (2020). The effects of financial literacy and subjective norms on saving behavior. *Management Science Letters*, 10(15), 3635-3642.
- Zhou , Q., Lee , C. S., Sin , S. C. J., Lin , S., Hu , H., and Fahmi Firdaus Bin Ismail , M. (2020). Understanding the use of youtube as a learning resource: A social cognitive perspective. *Aslib Journal of Information Management*, 72(3), 339-359.