

## Sedentary Behavior of Elementary School Students Based on Class Teacher Perceptions and Physical Education Teacher, Sports and Health in the District Turen

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### Abstract

*This type of quantitative research using a comparative causal method was carried out by comparing the perceptions of class teachers and PJOK teachers to determine the sedentary behavior of elementary school students spread across Turen District. Data was collected via an online questionnaire/questionnaire (google form) with 5 Likert answer scales and analyzed using a single mean versus criterion test (one sample t-test) and an independent group mean difference test (independent sample t-test). IBM SPSS Statistics 25 is used to make it easier to calculate analysis results. The findings of this research are (1) The physical activity of elementary school children according to the class teacher has not met the adequate criteria set, (2) The physical activity of elementary school children according to the PJOK teacher has not met the adequate criteria set, and (3) There is no significant difference in mean. between the class teacher's perception and the PJOK teacher's perception of the sedentary behavior of elementary school age children.*

**Keywords:** Sedentary Behavior PJOK teacher

### INTRODUCTION

Changes in information and communication technology in the digital era are changing the way people live along with the birth of new innovations to answer society's needs. This change not only answers the needs of the community but also pampers the community. The presence of smartphones—one of the results of technological developments—shows extraordinary changes in the way humans live. Developments in communications technology, for example. Anindita, Atisanti & Rahmawati (2013), the presence of online motorcycle taxis is an appropriate technological development that is changing society's social system. Moku, Mewengkang & Tangkudung (2016) smartphone technology makes it easier for parents to communicate quickly without knowing space and time, making it easier for parents to obtain important information about work.

Different from adults, smartphones for children and teenagers have different uses. In a study funded by UNICEF and carried out by the Ministry of Communication and Information (Kemkominfo) it was found that 98 percent of

children and teenagers (aged 10 to 19 years) knew about the internet and 79.5 percent of them were internet users. This study also found 3 main motivations for children to access the internet, namely to search for information (schoolwork needs, use of social media and entertainment content), stay connected with friends and entertainment (<https://kominfo.go.id>).

Looking at the description of the behavior of adults, children and teenagers above, there are similarities, namely the behavior of being lazy to move. One of the behaviors in many studies that has been proven to reduce health is sedentary behavior. Symptoms of sedentary behavior are actually an undesirable impact of advances in science and technology, especially technology, information and communication (Ratnaya, 2021; Astuti & Nurmalita, 2014; Arham & Agustang, 2021; Costigan, Barnett, Plotnikoff & Lubans, 2013; Salmon, Tremblay, Marshall & Hume, 2011). Various kinds of information and technology increasingly pamper humans in carrying out daily activities. Starting from advances in the field of transportation which makes travel time shorter, in the field of

telecommunications which makes the world seem like there are no distances because it can carry out verbal and visual communication, and also advances in the global internet which can access everything from cyberspace. However, with this progress, there are many negative impacts that occur around us, especially children who are not yet able to manage/divide their time.

Technological advances cause sedentary behavior which results in hypokinetic/sedentary conditions. The Ministry of Health of the Republic of Indonesia (2012) describes activities outside of sleep that only expend < 1.5 METS calories, such as driving a car, watching television, including those who are unable to stand (wheelchair users), sitting and working that require little posture movement. The body is characterized by sedentary characteristics. Hadi (2007: 3), sedentary lifestyle is a deviation from an eating pattern characterized by a high intake of energy (fat, protein and carbohydrates), low fiber but not accompanied by high physical activity.

WHO (2020: 1) emphasizes the importance of limiting screen-time activities - time spent watching screen-based entertainment (TV, computers and smartphones) - excluding screen-based games that require physical activity or movement. Children and teenagers are advised to do physical activity, especially aerobics, for at least 60 minutes with moderate and high intensity per day throughout the week to strengthen muscles and bones. Sedentary behavior most often occurs in children due to lack of activity so they spend their free time sitting and relaxing, watching television, playing video games or accessing gadgets (Arundhana, Hadi & Julia, 2013; Ochoa, Moreno Aliaga, Martinez-Gonzales & Alfredo, 2007 )

In general, the negative impacts of sedentary behavior include reducing fitness, worsening cardiometabolism (Edwardson et al, 2012; Van Holten, 2013; MacMillan, Kirk, Mutrie, Matthews, Robertson & Saunders, 2013), increasing obesity (Ramadhani & Bianti, 2017 ; Arundhana, Hadi & Julia, 2013; Alberga

et al, 2012; PrenticeDunn & Prentice-Dunn, 2012; Mitchell, Byun & Dowda, 2011).

In particular, the negative impacts of sedentary behavior caused by screen-time include reducing sleep quality (Janssen, 2020; Tremblay, 2016; Carter, Rees, Hale, Bhattacharjee & Paradkar, 2016; Vallance, Buman, Stevinson, & Lynch, 2015; Lissak, 2018), worsening body structure and worsening osteoporosis and reducing pro-social behavior (WHO, 2020; Robertson, McAnally & Hancox, (2013), blocked blood vessels (Agency for Health Research and Development, 2013), mental disorders (Hoare, Skouteris, Fuller-Tyszkiewicz, Millar, & Allender, 2013; Teychenne & York, 2013; Cerimele & Katon, 2013; Lissak, 2018), reducing learning motivation and academic achievement (Fitria & Surya, 2021), lowering expectations life (Agency for Health Research and Development, 2013; Katzmarzyk & Lee, 2015); eye disorders (Huang, Chang, Wu, 2015; Lissak, 2018); Minayati & Ismail, 2021). The ease of operating technology with manual changes makes technology even more enjoyable for humans. Apart from its convenience and practicality, this technology, which has become a human need, has impacts and consequences on human life in carrying out their life activities. In this digital era, it is important for class teachers and especially PJOK teachers to continue to remind their students to continue to be active and reduce sedentary behavior which has many negative impacts. Therefore, this research aims to find out (1) Does the physical activity of elementary school children according to the class teacher meet the adequate criteria set? (2) Does the physical activity of elementary school children according to the PJOK teacher meet the established criteria? (3) Is there a significant difference in mean between class teachers and PJOK teachers regarding the sedentary behavior of elementary school age children?

## RESEARCH METHOD

This quantitative research using a comparative causal method was carried out by

comparing the perceptions of class teachers and PJOK teachers to determine the sedentary behavior of elementary school students spread across Turen District. Data were collected through questionnaires (google form) with 5 Likert answer scales and analyzed using a single mean versus criterion test (one sample t-test) and an independent group mean difference test (independent sample t-test). IBM SPSS Statistics 25 is used to make it easier to calculate analysis results.

**RESEARCH RESULTS AND DISCUSSION**

**Research result**

1.Respondent Demographics

A. Teacher Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Laki	5	23.8	23.8	23.8
	Perempuan	16	76.2	76.2	100.0
Total		21	100.0	100.0	

Figure 1. Output of Descriptive Analysis of Class Teacher Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Laki	38	66.7	66.7	66.7
	Perempuan	19	33.3	33.3	100.0
Total		57	100.0	100.0	

Figure 2. Output of Descriptive Analysis of PJOK Teacher Gender

The output of the descriptive frequency analysis in Figure 2 shows that the majority of PJOK teachers at the elementary school level are male, namely 38 teachers (66.7%) and the remaining 19 teachers (33.3%) are female.

B. Teacher Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	S1	50	87.7	87.7	87.7
	S2	6	10.5	10.5	98.2
	Sedang Menempuh S1	1	1.8	1.8	100.0
Total		57	100.0	100.0	

Figure 3. Output of Descriptive Analysis of Classroom Teacher Education Levels

Figure 3 above shows that there are 7 class teachers (33.3%) and there are 14 (66.7%) class teachers who have completed their Bachelor's degree education (S1), currently studying for a master's degree.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	S1	50	87.7	87.7	87.7
	S2	6	10.5	10.5	98.2
	Sedang Menempuh S1	1	1.8	1.8	100.0
Total		57	100.0	100.0	

Figure 4. Output of Descriptive Analysis of PJOK Teacher Education Levels

Figure 4 displays data that there is 1 PJOK teacher (1.8%) who is currently pursuing a Bachelor's degree, 50 PJOK teachers (87.7%) who have completed a Bachelor's degree and 6 PJOK teachers (10.5%) are continuing and pursuing their education. S2.

2. Physical Activity of Elementary School Children According to Class Teachers

Statistic	Value
Mean	16.57
Standard Deviation	0.714
t-statistic	2.086

Figure 5. Output of Analysis of Class Teacher Perceptions Based on Sedentary Behavior of Elementary School Students

The one sample t-test output above shows the results that the empirical calculated mean (16.57) of elementary school students' physical activity is not much different from the predetermined physical activity criteria (16) with a positive difference of 0.57 and an empirical coefficient of 0.714 is obtained. much greater than the value of  $t_{\alpha 0.05}$  for df 20, namely 2.086. This means that the class teacher's perception shows that elementary school students lack physical activity.

### 3. Physical Activity of Elementary School Children According to PJOK Teachers

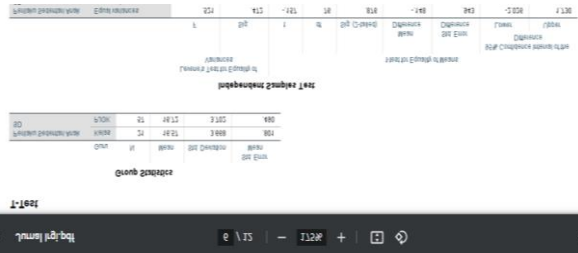


Figure 6. Output of Analysis of PJOK Teacher Perceptions Based on Sedentary Behavior of Elementary School Students

The one sample t-test output in Figure 6 shows the results that the empirical calculated mean (16.72) of elementary school students' physical activity is not much different from the predetermined physical activity criteria (16) with a positive difference of 0.719 and an empirical coefficient of 1.467 is obtained which is far greater than the  $\alpha 0.05$  value for df 56, namely 2.009. This means that the perception of PJOK teachers shows that elementary school students lack physical activity.

### 4. Differences in Physical Activity of Elementary School Children According to Class Teachers and PJOK

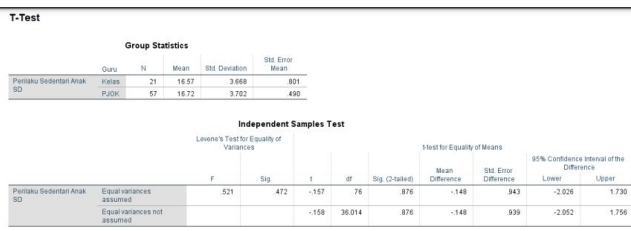


Figure 7. Output of analysis of differences in perceptions of classroom teachers and PJOK Based on Sedentary Behavior of Elementary School Students

## Discussion

Assuming the variances are the same, from the output above we obtain an empirical coefficient of 0.157. In the context of testing, the value of  $\alpha 0.05$  for df 76 is 2,000, so it is clear that the tempirik (0.157) is much greater than  $\alpha 0.05$  (2,000) thus indicating that there is no difference in physical activity at elementary school education levels based on the perceptions of class teachers and PJOK teachers.

Most of the elementary school class teachers are dominated by women. The instinct of a mother as an educator and caregiver is to be patient. The highest level of teacher education is S1. Class teachers choose a level of education that is not too high because the material taught in elementary school is easier. In summary, class teachers are more likely to be women because their role is not just a teacher but also a family one. Teaching hours that don't last until the afternoon give female class teachers the opportunity to take care of their families. In line with the results of this research, Chusniatun, Kuswardhani and Suwandi (2014) found that the dual role of teacher and housewife takes up time and energy so that many female teachers put aside their desire to become career women and do not make a structural career their main choice, so that ( Sukarti, 2013) does not provide maximum time to manage learning.

The description above also explains why more PJOK teachers are male and have higher education. Apart from that, PJOK material is full of physical competencies and requires extra physical conditions. PJOK teachers are required to master all sports taught in elementary schools. However, in this pandemic era, the competence of sports teachers is explained by the teacher's creativity in explaining the material to students, where according to students, male PJOK teachers are more creative in presenting the material. Fadli, Saputra, & Sembiring (2021), show that female teachers are more communicative and male teachers are more effective in planning lessons, changing lessons and closing assignments.

There is no difference in physical activity based on the class teacher's perspective and

PJOK is not a surprising finding because this research was conducted during the pandemic. Covid-10 has changed the learning system, due to regulations not to carry out activities outside the home, without crowding. In schools, we no longer see children running here and there during sports lessons or during recess.

Elementary class teachers report that the behavior of the elementary school students they care for is not very active and does not meet the specified criteria. During online learning, students study independently at home (accompanied by parents or someone older than the student at home) through internet-based media (Zoom, Google Meet, WhatsApp, YouTube) or worksheet assignments. Here a role shift occurs. Parents' role as educators is carried out by providing assistance to explain learning materials and helping children complete their assignments. Most elementary school students are given learning materials which are accessed via YouTube, PowerPoint slides, quiz applications such as Whiteboard, Kahoot, Icando, Zenius. This kind of internet-based learning increases screen-time in elementary school children. To compensate for physical activity and to reduce sedentary behavior (lazing around, playing video games, watching videos, dexterity games using gadgets, reading comics/lessons), parents often involve children in keeping the house clean such as sweeping, mopping, cooking, drying clothes, pulling grass, exercising while sunbathing, cycling or playing at home with the family. Rahayu, Anggraini & Islam (2021) ways parents use to improve the parenting process during the pandemic are sweeping the house, cooking together, washing dishes, playing, worshipping, and so on. This activity provides an opportunity for parents and children to strengthen their bonds with each other, while parents are only busy working and children are busy studying at school.

PJOK SD teachers report that the behavior of the elementary school students they care for is not very active and does not meet the specified criteria. Physical education lessons involve cognitive, affective and psychomotor

competencies which are developed through physical fitness, movement skills, emotional control, and healthy lifestyles. During this pandemic, PJOK teachers feel that the development aspects of elementary school children are still limited to the development of cognitive and affective competencies. The lack of psychomotor development in elementary school students is because students do not fully receive learning assistance from their parents because parents assume that sports lessons are lessons that students can do themselves. Parents have the perception that sports lessons are just movement lessons, even though movement is not always considered sport, so PJOK teachers categorize elementary school students' physical activity in the low category. Students collect videos containing movements modeled by their teachers (students watch via gadgets, are exposed to screen time) with inappropriate attitudes (increasing sedentary behavior). The same findings were also shown in research conducted by Rizky & Yuwono (2021) that learning during the pandemic only increased students' affective and cognitive competence. Students' psychomotor barriers are not achieved because the learning process does not run optimally where learning is carried out at home so that it is not possible to carry out learning as it should. PJOK teachers also reported that students' inaccuracies in carrying out movements modeled by the teacher could not be corrected by their parents because the parents worked, students were only given gadget/laptop/PC facilities to access PJOK lessons.

The absence of differences in the perceptions of class teachers and PJOK regarding the sedentary behavior of elementary school children shows that this change is due to changes in lifestyle in the pre-pandemic era and during the pandemic, and the increasing development of digital technology which causes sedentary behavior or what is known as "mager" behavior. lazy to move.

The sedentary behavior that is most often associated with elementary school children is

excessive use of screen time. Staying away from crowds during the pandemic is a must, learning is done online so many working parents are giving away gadgets. Parents also allow their children to watch television, lie down while listening to music/watch videos and eat snacks. This type of parenting also increases sedentary behavior. WHO (2021: 29) in its latest findings in this pandemic era shows that technology and communication influence how humans work, study and spend their free time. In most countries, children and teenagers spend more time in sedentary behavior, especially for entertainment, for example screen-based entertainment (television and computers), and digital communications such as mobile phones. The shift in children's lifestyles was also stated by Arham & Agustang (2021), the surrounding environment, community conditions, new findings and geographical conditions are factors that influence children's lifestyles.

## CONCLUSION

1. According to class teachers, the physical activity of elementary school children does not meet the established adequate criteria. Internet-based learning (zoom, google meet, WhatsApp, YouTube) and requiring screen-time increases sedentary behavior (lazing around, playing video games, watching videos, playing games using gadgets, reading comics/lessons). To reduce sedentary behavior, parents invite children to sweep the house, cook together, wash dishes, play, worship, and so on. This activity provides an opportunity for parents and children to strengthen their bonds with each other, while parents are only busy working and children are busy studying at school.
2. According to PJOK teachers, the physical activity of elementary school children does not yet meet the established adequate criteria. The lack of psychomotor development in elementary school students is because students do not fully receive learning assistance from their parents because parents assume that sports lessons are lessons that students can do themselves. Parents have the perception that sports lessons are just movement lessons, even though movement is not always considered sport. Students collect videos containing movements exemplified by their teacher with inappropriate attitudes.

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