



## Sedentary Profile of Adolescents Aged 12-15 Years at Pangudi Luhur Junior High School in Salatiga

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### ABSTRACT

The technology designed to assist human life has undergone rapid development, but on the flip side, it has led to the emergence of a sedentary lifestyle (lack of physical activity). Sedentary behaviour is prevalent among teenagers who prefer playing with gadgets, lying down, and watching television. Engaging in sedentary behaviour for more than 5 hours a day can result in various dangerous health issues, including obesity. Therefore, teenagers must increase physical activities that support their overall health. A study was conducted to explore the passive profile of students aged 12-15 years at Pangudi Luhur Junior High School in Salatiga. The research employed a quantitative method with simple random sampling. The total population of the study was 223, and the sample size obtained using the Slovin formula was 143 students. Data were collected by completing the Adolescent Sedentary Questionnaire (ASAQ) by 150 students at SMP Pangudi Luhur Salatiga. The research findings indicate that many students engage in Sunday activities, totalling 988 minutes (16 hours and 28 minutes). Additionally, during the week, students spend 1054 minutes (17 hours and 34 minutes) on activities such as watching YouTube and DVDs.

**Keywords:** ASAQ; Adolescents; Salatiga; Sedentary; Technology

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## INTRODUCTION

In today's era, it cannot be denied that technology is rapidly advancing, marked by progress in data and communication. Technology has become a communication tool for people from all walks of life and extremely benefits society, serving purposes such as work, education, shopping, and entertainment. This progress is accompanied by the emergence of electronic devices such as gadgets and laptops and widespread internet access that reaches every corner of the country (Retdhinata & Hijrin, 2022). This development undoubtedly impacts changes in the lifestyle and patterns of society, where fulfilling needs has become an instant and easy process. However, the convenience offered by the progress of the times through technological advancements encourages a sedentary lifestyle (Wahyu & Donny, 2021).

A sedentary lifestyle, a lack of movement or "manager" in daily activities, occurs when individuals engage in minimal physical activity (Finandita & Veni, 2021). A



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sedentary lifestyle can range from high to low or no-intensity activities. The intensity of physical activity is measured in METs (Metabolic Equivalent), with walking assigned 3.3 METs, heavy activity 8 METs, and sedentary behaviour less than 1.5 METs (Amini, 2016). If left unchecked, such a lifestyle can lead to various diseases, including obesity (Chriswinda et al., 2022). While energy expenditure during a sedentary lifestyle may not be significant for individuals with an ideal weight, it significantly impacts those with above-normal weight, as physical activity is crucial for calorie reduction and metabolism to prevent various diseases (Hendra, 2019).

A sedentary lifestyle is closely related to today's teenagers aged 12-18, as they are familiar with the advancements in science and technology, leading to a decrease in physical activity. Adolescents tend to engage in activities such as watching television, lying down, and playing with gadgets, constituting a sedentary lifestyle (Blegur, 2020). This sedentary lifestyle is also more prevalent in urban areas due to easy transportation access and digital advancements (Dwi & Ambarita, 2022). The convenience offered makes today's teenagers inclined to be less active and choose to spend their time sitting or lying down while facing electronic screens (Velysta, 2018). Moreover, excessive use of gadgets negatively impacts teenagers, leading to reduced motor skills, difficulty learning materials, and potential health disturbances, as excessive screen time is significantly associated with low physical activity or a sedentary lifestyle (Nurul et al., 2018). Such conditions may cause visual impairments and sleep disturbances, resulting in frequent headaches (Erlina & Bambang, 2020). Given these conditions, physical activity requires greater attention to maintain the quality of an individual's life (Araya et al., 2022), as the frequency of physical activity is directly related to overall health (Fanhas & Khomaeny, 2020).

Middle school students, generally categorized by the Indonesian Ministry of Health as early teenagers aged 12-15 (Amin, 2017), are considered vulnerable to sedentary behaviour. This vulnerability stems from teenagers in this age range regularly using electronic media in their daily activities. Therefore, the researcher aims to examine the passive profile of 12-to 15-year-old adolescents at Pangudi Luhur Junior High School in Salatiga. During the Field Experience Program at Pangudi Luhur Junior High School in Salatiga, the researchers observed that students at this school have diverse backgrounds in terms of physical activity. As a result, the researchers are interested in understanding the sedentary profile of students aged 12-15 years at Pangudi Luhur Junior High School in Salatiga.

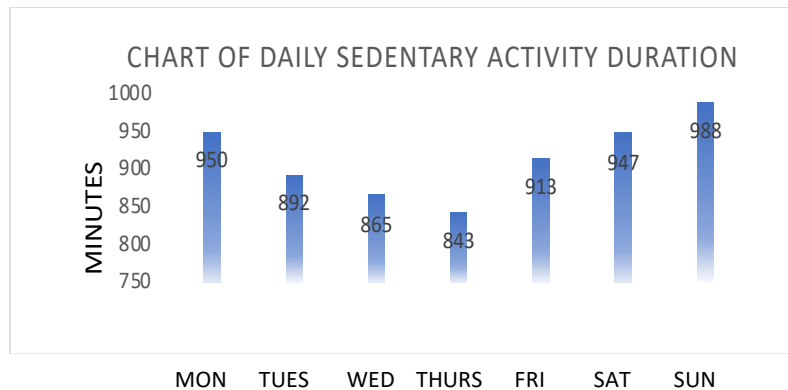
## **RESEARCH METHODOLOGY**

The method employed in this research is quantitative, utilizing simple random sampling to understand the sedentary patterns among students aged 12-15 at Pangudi Luhur Junior High School in Salatiga. The school itself has a total student population of 223. From this total, the researcher selected a sample using the Slovin formula with a 5% error rate ( $n = \frac{N}{1 + N(e)^2}$ ). According to this formula, the number of actively participating respondents is 143 students. The instrument used in this research is the ASAQ (Adolescent Sedentary Questionnaire), comprising ten questions with validity and reliability scores ranging from 0.57 to 0.86 (Mare, 2022). The researcher identified sedentary behaviours throughout the week, then analyzed the types of activities, such as watching TV, videos/DVDs, using computers/laptops/tablets and PlayStation, reading books/novels/ magazines/comics, doing homework/tasks using notebooks,

using transportation, attending subject lessons, sitting and chatting, and playing musical instruments. This study was conducted in October-November 2023.

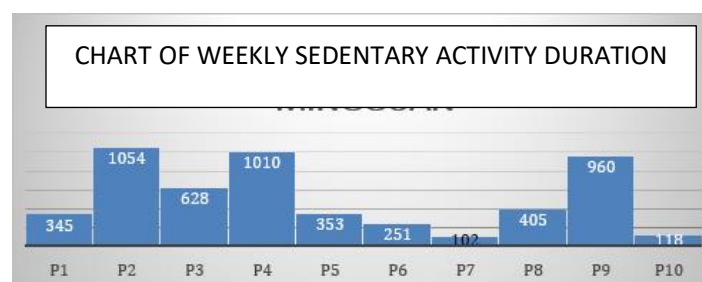
## RESULTS AND DISCUSSION

This research was conducted using the Adolescent Sedentary Questionnaire (ASAQ) to gather information about sedentary behaviour, filled out by 150 respondents, consisting of 74 males and 76 females. The total population of students at Pangudi Luhur Junior High School in Salatiga is 223. The obtained data were then processed to produce results presented in the following graph.



**Figure 1.** Average Duration of Activity Per Day

The graph above illustrates the duration of activities performed by all the examined respondents from Monday to Sunday. It shows that, on average, respondents spent 950 minutes on activities on Monday, 890 minutes on Tuesday, 865 minutes on Wednesday, 848 minutes on Thursday, 913 minutes on Friday, 947 minutes on Saturday, and 988 minutes on Sunday. The respondents engaged in more activities on Sundays, with a total duration of 988 minutes. The data also categorize various activities undertaken by the respondents, providing the total time spent per week and depicting the forms of sedentary behaviour exhibited by the respondents.



**Figure 2.** Average Duration of Sedentary Activity Per Week

The graph above illustrates P1: watching television, P2: watching YouTube videos, DVDs, etc., P3: using PlayStation/games, etc., P4: using computer/phone/tablet, etc., P5: doing homework, P6: reading novels, P7: attending subject lessons, P8: using transportation, P9: chatting in person or through electronic devices, P10: playing musical instruments. According to the graph, the respondents spent a total of 345 minutes per week watching television, 1054 minutes watching

YouTube, DVDs, and the like, 628 minutes playing PlayStation, games, etc., 1010 minutes using a computer/phone/tablet, 353 minutes doing homework, 251 minutes reading novels, 102 minutes attending subject lessons, 405 minutes using transportation, 960 minutes chatting, and 118 minutes playing musical instruments.

It is observed that the majority of activities frequently undertaken by respondents during the week involve watching YouTube, DVDs, and the like, with a total duration of 1054 minutes. The findings indicate that students spend more of their daily time watching YouTube, contrasting with studies conducted by (Dani and Nurhayati 2019; Laksono and Hidayat, 2019; Ubaidilah and Nurhayati, 2019), which found that the most common activity among students was watching television. This difference may be attributed to the current technological advancements. Students are more familiar with and frequently use smartphones compared to television, leading them to engage in activities more frequently using their phones. Students tend to watch more on their phones, particularly on YouTube. This contrasts with previous research where students were more likely to watch television. Although the activity remains the same, which is watching, the medium used by current students differs from previous studies.

A study by Paramesti, Alamiyah, and Cahayani (2021) states that YouTube is preferred for its practicality and effectiveness in seeking information and entertainment. This can serve as a reference and a reason why students nowadays engage more in watching YouTube than television, as observed in previous years. The percentage of computer/phone/tablet usage is also very high following YouTube watching activities. These results align with literature reviews conducted by Nafi'ah and Hadi (2022), stating that opening social media, chatting online, watching videos and photos, and playing games can reduce students' interest in physical activities. This suggests a connection between computer/phone/tablet use and students' sedentary behaviour. The technology students use becomes less beneficial, yet they enjoy these activities more than moving and exercising. A sedentary lifestyle with little physical activity poses the risk of obesity. If students engage in a sedentary lifestyle for 5 hours/300 minutes per day, it can decrease the basal metabolic rate in the body (Sidarthayani et al., 2023). This can increase fat accumulation and the risk of obesity. The research results above indicate that students' daily sedentary activities exceed 300 minutes. Therefore, the sedentary lifestyle adopted by students has the potential to lead to obesity.

## **CONCLUSION**

The research results indicate that 150 students from Pangudi Luhur Junior High School in Salatiga spend 17 hours and 34 minutes per week engaging in activities such as watching YouTube on their smartphones, DVDs, and similar devices. The high use of technology is attributed to adolescents' exposure to technological advancements. This situation provides them with convenience in seeking various information and entertainment tailored to their interests. Technological ease allows them to fulfil their needs without engaging in significant physical activities. Based on these conditions, it is not surprising that there is a decline in students' interest in outdoor activities, movement, and exercise. Therefore, the 150 students from Pangudi Luhur Junior High School in Salatiga have low physical activity levels, indicating a sedentary lifestyle.

## **CONFLICT OF INTEREST**

All authors declare no conflict of interest in this manuscript.

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