



Profile Of Sedentary Lifestyle, Physical Activity And Obesity In Physical Education Students

Santika Rentika Hadi¹, Ronald Dwi Ardian Fufu^{2*}, Yandika Fefrian Rosmi³, Riga Mardhika⁴, I Gede Dharma Utamayasa⁵

^{1,3,4,5}Pendidikan Jasmani, Universitas PGRI Adi Buana Surabaya

²Pendidikan Jasmani Kesehatan dan Rekreasi, Universitas Nusa Cendana

Email Penulis Korespondensi: ronald.fufu@staf.undana.ac.id

Abstract- Exercising is basically the need of every human being in his life, so that his physical condition and health are always well maintained. The purpose of conducting this research is to describe or profile the sedentary lifestyle of students at PGRI Adi Buana University, Surabaya, class of 2022. In this research, the survey method was carried out on students at PGRI Adi Buana Surabaya University, Department of Physical Education, Class of 2020. This type of research is a quantitative research approach. descriptive. The population and sample of this study were 50 people. This survey research used the International Physical Activity Questionnaire (IPAQ) questionnaire using the Google form, which then shared the link via WA. The results of the research above show that the description of the results of adolescents at the PGRI Adi Buana University Surabaya Department of Physical Education class of 2020 who spend sedentary time is in the low category with a percentage of 56% and spending high sedentary time is only 44%. Based on the results of a sedentary lifestyle profile study, there were physical education students at the University of PGRI Adi Buana Surabaya, it was found that they settled in the moderate category.

Keywords: Sedentary, Health, Obesity, Lifestyle

1. INTRODUCTION

One of the human activities of all time that is carried out by all people, one of which is sports. Global and national guidelines on physical activity are a central component of a comprehensive and coherent governance and policy framework for public health action (Bull et al., 2020). Of the several physical activities of a person, sport is a physical activity that is used to improve and maintain the quality of health in a person. Doing sports is basically a need for every human being in his life, so that his physical condition and health are always well maintained. Physical activity should be gradually increased to avoid overexertion, muscle injury, or health problems, ranging from at least 30–45 minutes daily to a total of 150–300 minutes per week, as recommended by the American College of Sports Medicine (ACSM), Organization World Health (WHO), the American Heart Association (AHA), the European network for the promotion of health-promoting physical activity (HEPA), and by the Italian Ministry of Health Physical Activity Guidelines. Sedentary behavior is different from physical activity. Health behavior as attributes such as beliefs, expectations, motives, values, perceptions of other cognitive elements, personality characteristics, including mood and emotional status and traits and patterns of behavior that are evident.

The WHO Guidelines on physical activity and sedentary behaviour provide evidence-based public health recommendations for children, adolescents, adults and older adults on the amount of physical activity (frequency, intensity and duration) required to offer significant health benefits and mitigate health risks. For the first time, recommendations are provided on the associations between sedentary behaviour and health outcomes, as well as for subpopulations, such as pregnant and postpartum women, and people living with chronic conditions or disability. Sedentary behavior or

also known as sedentary behavior is any awake behavior characterized by energy expenditure of ≤ 1.5 MET (Metabolic Equivalent of Task) such as when sitting or lying down and different from inactive behavior ("Letter to the Editor: Standardized Use of the Terms 'Sedentary' and 'Sedentary Behaviours'." 2012). This modern technological development can change people's lifestyles and patterns of life because it makes everything instantaneous. Advances in technology also encourage a person to have a sedentary lifestyle. From a point of view based on general criteria references, a person can be said to be physically inactive if he does not reach a predetermined limit of the level of physical activity he does every day.

There are so many impacts that can be caused by a sedentary lifestyle. Someone whose physical activity is not enough is one of the 10 most risky factors that cause death in the world. The results of this study indicate that sedentary behavior has an influence on coronary heart disease (Nurhijriah et al., 2022). Sedentary behavior is a common and complex behavior that has the potential to affect adolescent health at a physiological and psychological level, depending on how it accumulates throughout the day. This is because a decrease in physical activity and an increase in sedentary activity can cause a buildup of calories in the body. This is in line with the age of youth which is the age range for depression coupled with sedentary behavior which often triggers mental health disorders. But at this time sedentary behavior has spread to elementary school-aged children to teenagers along with the times and technology.

This health behavior in outline is grouped into 2 namely healthy behavior and behavior of sick people. The behavior of healthy people to stay healthy and improve. Seeing the adverse impact on health with sedentary behavior, it is necessary to take steps to reduce these negative impacts. Steps that can be taken include



implementing new habits that foster a more active lifestyle, education for health promotion by making residents aware of the need to maintain an active state (Muflihah & Wardhani, 2021). Lifestyle or life style of a person is different. Sport as a person's life style will also have an impact on one's health. The environment has the greatest influence and role, followed by behavior, health facilities and heredity. Behavior is the second factor that affects the degree of public health because the healthy or unhealthy health environment of individuals, families and communities is highly dependent on human behavior itself (Adliyani, 2015). A person's behavior will affect the quality of a person's life itself. Good and positive behavior will also have a positive impact on his health.

With increasing concerns around low prevalence of physical activity and rising levels of sedentary behaviour among many populations worldwide, important public health gains could be made by limiting excessive sedentary behaviour and replacing it with more physical activity of light, moderate or vigorous intensity (Dempsey et al., 2020). Physical activity and health provide strong reasons for adopting and maintaining an active lifestyle, and the role of sedentary behavior in public health is now receiving more and more attention. Children and adolescents do not practice enough physical activity or have too much unbalanced nutrition, and the consequence of these unhealthy and bad habits is overweight that can lead to obesity, impairment of health and, implicitly, the quality of life (DAMIAN et al., 2018). The increase in obesity due to lack of regular physical activity and unhealthy nutrition in feed intake and increased number of calories is worrying. There is clear evidence of the benefits that regular physical activity brings to children and adolescents: improving cardiorespiratory capacity, muscle tone, bone health, cardiovascular and metabolic health biomarkers, body composition, and low risk of depression (Damian Et Al., 2018). A decrease in physical activity was also observed in university students (Rutkowska et al., 2021), along with increased anxiety levels among 18 to 34 year olds (Antunes et al., 2020).

Based on the discussion above, the purpose of conducting this research is to describe or profile the sedentary lifestyle of students at the PGRI Adi Buana University Surabaya class of 2022. During online virtual learning, physical activity may be an opportunity to spend time, or vice versa, sedentary behavior may increase. The hypothesis put forward was that students' sedentary behavior would increase while they were at home and that their physical activity would decrease because they could not exercise outside

II. METHOD

In this study the survey method was carried out on PGRI Adi Buana Surabaya university students majoring in Physical Education Class of 2020. This type of research uses quantitative research with a descriptive approach. The population and sample of this study were

50 people. This survey research used the International Physical Activity Questionnaire (IPAQ) questionnaire using the Google form, which then shared the link via whatsapp. Respondents were asked to fill in accordance with the activities of each individual. The results of filling out the IPAQ questionnaire by respondents were processed using the IPAQ assessment. Then the results of the amount of physical activity are obtained after adding up the results of low, moderate and heavy. After the total activity is known, it is then categorized into three categories, namely: Less than 600 MET-minutes/week will be included in the low physical activity category, then starting from 600 – 3000 MET-minutes/week will be included in the category of moderate physical activity, and lastly if it is more than 3000 MET-minutes/week falls into the category of strenuous physical activity.

III. RESULT

Of the 50 samples in the Department of Physical Education Class of 2020, the following percentages are known from the table:

Table 1. Gender Character

Gender	Frequency	percentage
Male	35	70 %
Female	15	30 %
Total	50	100%

From the frequency of gender, the result is that the percentage of the male sex sample is 70%, for the female type sample, the percentage is 30%.

Table 2. Sedentary time

Category	Frequency	percentage
High	22	44%
Low	28	56%
Total	50	100%

From the sedentary time table, it shows that the sedentary time that sped up was 44% in the high category and 56% in the low category.

Table 4. Physical Activity

Category	Frequency	percentage
High	18	36%
Moderate	21	42%
Low	11	22%
Total	50	100%

From the Physical Activity table it shows that the level of physical activity with moderate or moderate intensity is with a percentage of 42%, high or high level physical activity is at a percentage of 18% and low or low level with a percentage of 11%

Table 5. Body Mass Index

Category	Frequency	percentage
Very fat	5	10%
fat	10	20%
Normal	27	54%
Thin	8	16%
Total	50	100%

From the body mass index table it shows that the average in the very fat category is 10%. In the fat



category with a percentage of 20%, in addition to the normal category there is a percentage of 54% and in the thin category of 8%.

IV. DISCUSSION

The results of the research above show that the description of the results of adolescents at the PGRI Adi Buana University Surabaya Department of Physical Education class of 2020 who spend sedentary time is in the low category with a percentage of 56% and spending high sedentary time is only 44%. With cases of obesity, the percentage is only 10%. This result is in line with the results of research from (Desmawati, 2019) shows a picture of the results of adolescents in South Tangerang who spend sedentary time in the low category with a percentage of 77.7%. Using time to do sedentary activities is moderate at 17.7% and South Tangerang youth who spend high sedentary time is only 5.3%. With cases of obesity, the percentage is only 10.63%. In terms of the health of physical education students, another factor that needs to be considered is that they have healthy living habits to exercise at home during online learning. Research from (Rahma & Wirjatmadi, 2020) shows that physical activity has an influence on nutritional status. Where the results of this study show that the physical activity of the Kanaya Tennis Club team which is included in the good category has a smaller risk of experiencing nutritional problems. Other research from (Pribadi & Nurhayati, 2018) also showed results where sedentary physical activity had a significant relationship with a value of 0.011 with the nutritional status of students in class 10 MAN City in Mojokerto. eat but still do sedentary activities such as chatting games and watching tv.

The global recommendations on physical activity in children and adolescents aim to highlight and promote the need for it, the benefits it brings to health and age and fitness regimes. More research on the impact of a sedentary lifestyle on health could be useful in developing new strategies to promote physical activity. Physical activity support for children and adolescents is needed, considering that more and more young people are overweight and obese. Promoting healthy lifestyles by reducing sedentary behavior due to excessive use of the internet or audiovisual media and increasing physical activity is urgently needed. Schools and families can play a decisive role in promoting active and healthy lifestyles. Perhaps the greatest obstacle to achieving major advances in public health in the twenty-first century results from paralysis of the pandemic paradigm or from a widespread inability to envision alternative or new models of thinking.

Potential examples of this phenomenon could be continued by focusing on moderate and vigorous physical activity as the dominant aspect related to the health of human movement. In accordance with the paradigm that moderate to vigorous physical activity can result in greater increased physical activity by increasing quality of life and life expectancy through human movement patterns (Monteiro et al., 2019). Human

movement is a complex behavior that is influenced by personal motivation, health and mobility issues, genetic factors, and the social and physical environment in which people live. However, social and environmental pathways lead to persistent physical activity behaviors.

Any form of body movement that expends energy is a brief definition of physical activity. One that is part of physical activity is exercise but that does not mean only sport is physical activity. According to the World Health Organization or WHO, recommendations for physical activity levels are divided into 3 age groups, namely children and adolescents, adults and adults. While physical activity with moderate intensity, namely brisk walking, dancing and doing household chores. Physical activity is very important because it has many benefits both for the body and affects a person's quality of life, which is why the Indonesian government has issued Presidential Instruction No. 1 of 2017 concerning the Healthy Living Community Movement (GERMAS), one of the focuses of which is physical activity.

By using an approach based on general habit references, a person is compared with their peers in measuring how much or how little a person does physical activity. From a point of view based on general criteria references, a person can be said to be physically inactive if he does not reach a predetermined limit of the level of physical activity he does every day. Although physical inactivity has become an increasingly common term, a more suitable name for the concept of inactivity is sedentary behavior. The term sedentary reflects the fact that many behaviors with various age ranges can be said to be sedentary or less active. Being physically inactive or not motivated to exercise is not the same thing as sedentary behavior. In contrast, sedentary behavior includes any form of physical exercise performed outside of bedtime in which sitting and lying down predominate and little or no energy is expended. People's daily routines have changed as a result of the widespread availability of instant services made possible by technological developments in the modern era.

By exercising regularly, at least someone will have a great opportunity to achieve this and get several benefits, including preventing heart disease and stroke, controlling blood sugar levels, keeping blood pressure stable, maintaining ideal body weight, etc. As for mental health, exercise can also help a person to improve mood, grow self-confidence, deal with stress, make sleep better, feel positive and fun. In order to avoid a sedentary lifestyle, the role of parents is needed to direct their children by being an example or example of a healthy lifestyle. Promotion and campaigns for healthy lifestyles also need to be carried out by schools and health agencies to prevent and overcome the development of unhealthy lifestyles such as sedentary life.

The end of this research can be an illustration of the sedentary lifestyle profile of physical education students class of 2022 at PGRI Adi Buana University, Surabaya. It is hoped that this research can add to



literacy sources for readers' knowledge about physical activity and sedentary lifestyle

V. CONCLUSION

Based on the results of the sedentary lifestyle profile research, there were physical education students at the University of PGRI Adi Buana Surabaya, it was found that sedentary was in the medium category. The profile for physical activity spending time doing physical activity each week is in the moderate or moderate category. Future research is expected to consider continuing with a broader and more specific discussion. To maintain a healthy body and body immunity by continuing to do minimal physical activity and not spending too much time in sedentary activities.

REFERENCES

- Adliyani, Z. O. N. (2015). Pengaruh Perilaku Individu terhadap Hidup Sehat. *Perubahan Perilaku Dan Konsep Diri Remaja Yang Sulit Bergaul Setelah Menjalani Pelatihan Keterampilan Sosial*, 4(7), 109–114.
- Antunes, R., Frontini, R., Amaro, N., Salvador, R., Matos, R., Morouço, P., & Rebelo-Gonçalves, R. (2020). Exploring lifestyle habits, physical activity, anxiety and basic psychological needs in a sample of portuguese adults during covid-19. *International Journal of Environmental Research and Public Health*, 17(12), 1–13. <https://doi.org/10.3390/ijerph17124360>
- Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J. P., Chastin, S., Chou, R., Dempsey, P. C., Di Pietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., ... Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, 54(24), 1451–1462. <https://doi.org/10.1136/bjsports-2020-102955>
- DAMIAN, M., OLTEAN, A., & DAMIAN, C. (2018). The Impact of sedentary behavior on health and the need for physical activity in children and adolescents. *Revista Romaneasca Pentru Educatie Multidimensionala*, 10(1), 71. <https://doi.org/10.18662/rrem/19>
- Dempsey, P. C., Biddle, S. J. H., Buman, M. P., Chastin, S., Ekelund, U., Friedenreich, C. M., Katzmarzyk, P. T., Leitzmann, M. F., Stamatakis, E., van der Ploeg, H. P., Willumsen, J., & Bull, F. (2020). New global guidelines on sedentary behaviour and health for adults: broadening the behavioural targets. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 1–12. <https://doi.org/10.1186/s12966-020-01044-0>
- Desmawati. (2019). Gambaran Gaya Hidup Kurang Gerak (Sedentary Lifestyle) dan Berat Badan Remaja Zaman Milenial di Tangerang, Banten. *Jurnal Ilmiah Kesehatan Masyarakat*, 11, 296–301.
- Letter to the editor: standardized use of the terms “sedentary” and “sedentary behaviours”. (2012). In *Applied physiology, nutrition, and metabolism = Physiologie appliquee, nutrition et metabolisme* (Vol. 37, Issue 3, pp. 540–542). <https://doi.org/10.1139/h2012-024>
- Monteiro, D., Machado, S., Moutão, J., Bento, T., Vitorino, A., Alves, S., Rodrigues, F., Maciel de Lima, J. L., Teixeira, D., Murillo-Rodriguez, E., & Cid, L. (2019). Physical exercise and sedentary lifestyle: health consequences | Ejercicio físico y estilo de vida sedentario: consecuencias para la salud. *Espiral. Cuadernos Del Profesorado*, 12(25), 75–88. <https://doi.org/10.25115/ecp.v12i25.2420>
- Muflihah, N., & Wardhani, R. R. (2021). Identifikasi Sedentary Behaviour di Masa Pandemic Covid-19; Narrative Review. *Journal Physical Therapy UNISA*, 1(1), 15–22. <https://doi.org/10.31101/jitu.2017>
- Nurhijriah, S., Masriadi, Arman, Patimah, S., & Yusuf, R. A. (2022). Pengaruh Aktivitas Fisik, Perilaku Menetap, Status Gizi dan Gangguan Kesehatan Mental terhadap Penyakit Jantung Koroner. *Window of Public Health ...*, 3(1), 1922–1927. <http://jurnal.fkm.umi.ac.id/index.php/woph/article/download/114/251>
- Pribadi, P. S. A., & Nurhayati, F. (2018). Hubungan Antara Aktivitas Sedentari dengan Status Gizi pada Siswa SMP di Masa Pandemi Covid-19. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 06(02), 327–330.
- Rahma, E. N., & Wirjatmadi, B. (2020). Hubungan antara Aktivitas Fisik dan Aktivitas Sedentari dengan Status Gizi Lebih pada Anak Sekolah Dasar. *Amerta Nutrition*, 4(1), 79. <https://doi.org/10.20473/amnt.v4i1.2020.79-84>
- Rutkowska, A., Kacperak, K., Rutkowski, S., Cacciante, L., Kiper, P., & Szczegielniak, J. (2021). The impact of isolation due to covid-19 on physical activity levels in adult students. *Sustainability (Switzerland)*, 13(2), 1–9. <https://doi.org/10.3390/su13020446>