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The Relationship Between Physical Activity and Mental Health in Middle School Students

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Abstract: The Relationship Between Physical Activity and Mental Health in High School Students is a scientific article of literature study in the scope of education and health. The purpose of this article is to build a hypothesis that physical activity plays a role in improving the mental health of high school students. The research objects come from online libraries such as Google Scholar, Mendeley, and other online academic media. The method used is library research sourced from e-books and open access e-journals. The analysis was carried out descriptively qualitatively. The results of this article show that: (1) Physical activity plays a role in high school students, and (2) Mental health plays a role in high school students.

Keyword: Physical activity, mental health, high school students.

INTRODUCTION

Mental and physical health are two closely related aspects that support individual development, especially for adolescents in middle school. Adolescents are in a complex developmental phase, where academic, social and emotional pressures are often risk factors for their mental health. Previous research shows that physical activity can contribute significantly to improving mental well-being through physiological and psychological mechanisms, such as increased endorphin production and stress reduction (Yusuf, 2018).

According to Putra (2020), physical activity not only serves to improve physical health, but also has a positive impact in reducing the risk of mental disorders such as depression and anxiety. This is particularly important given the increasing prevalence of mental health problems among adolescents, especially in competitive and stressful school environments.

The Ministry of Health of the Republic of Indonesia (2021) also noted that the level of physical activity participation among adolescents in Indonesia is still relatively low. This condition results in various health problems, both physical and mental, which ultimately impact students' academic performance. Research from Rohmah (2019) revealed that physically active students tend to have lower stress levels and have better emotion management skills compared to inactive students.

Therefore, it is important to further examine the relationship between physical activity and mental health, particularly among secondary school students. This article aims to review the literature on how physical activity can contribute to improving students' mental health and the important role of physical education in supporting their mental health at school.

Based on this background, the purpose of this article is to develop further research hypotheses, namely:

- 1) Does physical activity play a role in middle school students?
- 2) Does good mental health contribute to middle school students?

METHOD

This research applies the method of library research and Systematic Literature Review (SLR). Data was obtained through online platforms such as Google Scholar, Mendeley, and various other online academic sources. Systematic Literature Review (SLR) is defined as the process of identifying, evaluating and interpreting all available research evidence to answer specific research questions (Kitchenham et al., 2009).

This research aims to find sustainability strategies based on digital technology to increase company profitability. SLR was used to identify various perspectives on this topic and explore relevant theories. In qualitative analysis, the literature review should be applied in accordance with the underlying methodological assumptions. One of the reasons for using qualitative analysis is because this research is exploratory (Ali & Limakrisna, 2013).

RESULT AND DISCUSSION

Result

The results of this study showed two main findings relating to the Relationship Between Physical Activity and Mental Health in Secondary School Students.

Secondary School Students

Secondary school students are generally between 12 and 18 years old. At this age, they are in an important phase of development, physically, emotionally and socially. The middle school period is also full of challenges such as academic pressure, social interactions and hormonal changes, all of which can affect their mental health.

According to research by Setiawan et al. (2020), high school students in Indonesia tend to experience psychological stress due to high academic demands and a competitive environment. This affects their mental well-being and shows the importance of a holistic approach in supporting mental health in schools.

Suharnan (2021) mentioned that secondary school students in Indonesia often face stress due to the transition from primary to secondary education, which is coupled with social issues such as bullying and pressure from the surrounding environment.

A study by Roeser et al. (2000) in the United States showed that high school students face various developmental challenges that affect mental health, such as anxiety, academic stress, and social relationship problems.

Patel et al. (2007) in their global study emphasized that the mental health of adolescents, including secondary school students, is often given less attention, even though they are vulnerable to disorders such as depression and anxiety due to various developmental pressures.

Secondary school students have been studied by many previous researchers including (Faisal, F., Ali, H., & Rosadi, K. I. 2021), (Ariningsih, N. E., Sumarwati, S., & Saddhono, K. 2012), (Monika, M., & Adman, A. 2017), and (Ardiyansyah, H., Hermuttaqien, B. P. F., & Wadu, L. B. 2019).

Physical Activity

Physical activity has a significant impact on the physical and mental development of adolescents. Activities such as regular exercise, walking, or fitness training can improve mood, reduce anxiety levels, and improve cognitive function. Winarno (2018) showed that physical activities performed by high school students in Indonesia, such as morning gymnastics or extracurricular sports activities, play a role in improving sleep quality, lowering stress levels, and increasing self-confidence. Putra et al. (2021) emphasized that students who regularly engage in physical activity tend to have better mental fitness levels, with lower depressive symptoms than inactive students.

Biddle et al. (2019) revealed in their research that physical activity, especially group sports, can help improve the social interaction of secondary school students in the UK, which plays a role in reducing social isolation and improving mood. Janssen and LeBlanc (2010) conducted a global meta-analysis which showed that sufficient physical activity, especially moderate to high-intensity exercise, is positively associated with reduced anxiety, depression, and improved cognitive function in adolescents.

Physical Activity has been widely studied by previous researchers including (Kusumo, M. P. 2020), (Widiyatmoko, F., & Hadi, H. 2018), (Ariyanto, A., Cinta, N. P., & Utami, D. N. 2020), and (Riyanto, P., & Mudian, D. 2019).

Mental Health

The mental health of high school students is greatly affected by a variety of factors, including academic pressures, social relationships, and their lifestyle. Good mental health enables students to face challenges more effectively and contributes to long-term well-being.

Sari et al. (2022) found that students who have a balance between academic demands and personal life tend to have better mental health. They also found that social support from family and friends had a significant impact in reducing anxiety and depression levels.

Utami (2020) examined the role of school counseling in helping students manage academic stress. This study showed that counseling services available to high school students play an important role in maintaining their emotional stability.

According to Merikangas et al. (2010), the prevalence of mental disorders such as depression and anxiety in high school students in the United States is increasing, especially in students who experience high academic pressure. The importance of early detection and intervention is key in supporting their mental health.

The World Health Organization (WHO, 2020) also notes that nearly 10-20% of adolescents worldwide experience mental disorders, with the mental health of secondary school adolescents being a major concern due to the long-term impact on their adult lives. With these references from home and abroad, you can see how important physical activity is in supporting the mental health of secondary school students. The role of schools in providing an environment that supports physical activity and mental health services is crucial to students' well-being.

Mental Health has been widely studied by previous researchers including (Nurbayti, N., & Ali, H. (2024), (Fakhriyani, D. V. 2019), (Dewi, K. S. 2012), and (Putri, A. W., Wibhawa, B., & Gutama, A. S. 2015).

Review Relevant Articles

Reviewing relevant articles as a basis for setting research hypotheses by explaining the results of previous studies, explaining the similarities and differences with the research plan, from relevant previous studies such as Table 1 below.

Table 1: Relevant Research Results

No	Author (Year)	Previous Research Results	Equation With This Article	Differences With This Article	H
1	Winarno (2018)	It showed that physical activity in secondary students improved sleep quality and lowered stress.	Physical activity plays a role for middle school students.	No significant differences, focus on mental health and physical activity.	H1
2	Putra et al. (2021)	Regular physical activity reduces depressive symptoms and improves students' mental fitness.	Physical activity plays a role for middle school students.	This article is more about holistic mental health, not just depression.	H1
3	Biddle et al. (2019)	Group sports help reduce social isolation and improve students' mood.	Good mental health plays a role in secondary school students.	This article covers not only team sports, but also other types of activities.	H2
4	Merikangas et al. (2010)	The prevalence of mental disorders such as depression and anxiety is increasing among US high school students.	Good mental health plays a role in secondary school students.	This article links mental health to physical activity, not just prevalence.	H2

Discussion

Based on the theoretical study, the discussion of this literature review article is to review relevant articles, analyze the role between variables and make a conceptual thinking research plan:

Physical Activity Plays a Role for Middle School Students

Physical activity plays a very important role in the lives of secondary school students as during this phase, they are at the peak of physical, mental and social development. Involvement in physical activities such as sports, gymnastics or group games not only helps in keeping fit but also contributes to character building and social skill development.

Physically, sports or physical activities help the body develop more optimally, improve motor coordination, and increase stamina. In addition, physical activity serves as a natural stress reliever. High school students often face high academic pressure and physical activities allow them to take their mind off the burden of studying as well as trigger the release of endorphins, a hormone known to boost mood.

Socially, physical activities, especially those conducted in groups, provide opportunities for students to interact with their peers in a more relaxed context. Through sports, students learn skills such as cooperation, leadership and communication. It also strengthens social relationships, which in turn helps form social support networks that are important for mental well-being.

Mentally, physical activity helps reduce anxiety and improve concentration. This is because physical activity delivers more oxygen to the brain, increasing focus and improving cognitive function. In the long run, physically active students tend to have a more positive mindset and are better equipped to face challenges in school and everyday life.

Physical Activity Plays a Role in Middle School Students has been widely studied by previous researchers including (Kusumo, M. P. 2020), (Widiyatmoko, F., & Hadi, H. 2018), (Ariyanto, A., Cinta, N. P., & Utami, D. N. 2020), and (Riyanto, P., & Mudian, D. 2019).

Good Mental Health Plays a Role for Secondary School Students

Good mental health is an important foundation for the well-being and success of secondary school students. During this time, students experience a range of significant changes in their lives, including the transition from childhood to adolescence, increased academic demands, and social challenges such as socializing and peer pressure.

Good mental health allows students to manage stress and life pressures in a healthier way. When students have emotional stability, they can face academic challenges without feeling overwhelmed. They are better able to develop coping strategies, such as time management or problem solving, which are crucial in maintaining a balance between academic demands and personal life.

Students with good mental health also have higher self-confidence, which is important in the learning process. They tend to believe more in their ability to achieve academic goals, take initiative in school activities, and more actively participate in discussions or extracurricular activities. In contrast, students who experience mental problems, such as anxiety or depression, may feel isolated, reluctant to interact and less motivated to learn.

In addition, good mental health supports students' ability to form and maintain healthy social relationships. This is especially important as social support from friends and family can be protective against various stressors. Students who have positive social relationships are usually happier, more connected and more resilient in the face of pressure.

Overall, good mental health allows students to live school life more optimally. They are not only more academically successful but also better equipped to thrive socially and emotionally. Good mental health also plays an important role in helping them grow into resilient individuals who are able to face the challenges of life in the future.

Good Mental Health Plays a Role in Secondary School Students has been widely studied by previous researchers including (Nurbayti, N., & Ali, H. (2024), (Fakhriyani, D. V. 2019), (Dewi, K. S. 2012), and (Putri, A. W., Wibhawa, B., & Gutama, A. S. 2015).

Conceptual Framework

Based on the formulation of the relevant article problems and discussion, the conceptual framework of this article is as shown in Figure 1.

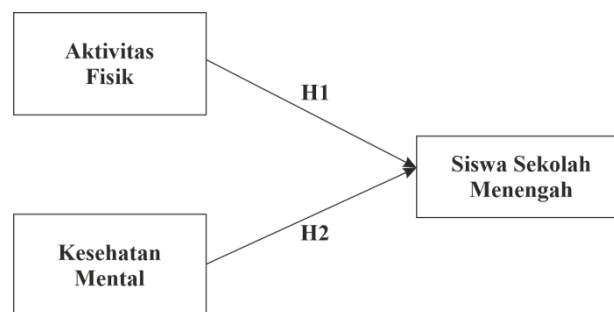


Figure 1: Coneptual Framework

Based on the conceptual framework above, of the two exogenous variables that play a role in high school students are Physical Activity and Mental Health, apart from the two

variables of physical activity and mental health, there are still many variables that play a role in high school students, including:

- 1) Lingkungan Sosial: (Harsono, H., Ali, H., & Fauzi, A. 2023), (Iryani, E., Ali, H., & Rosyadi, K. I. 2020), dan (Fardinal, F., Ali, H., & US, K. A. 2022).
- 2) Gaya Hidup dan Pola Makan: (Putra, W. N. 2017), (Lestari, E. I. 2020) dan (Miko, A., & Pratiwi, M. 2017).
- 3) Penggunaan Teknologi dan Media Sosial: (Fardinal, F., Ali, H., & US, K. A. 2022), (Safri, S., Ali, H., & Rosadi, K. I. 2022), dan (Ananda, E. R., & Marno, M. 2023).
- 4) Keterampilan Manajemen Stres : (Prasetyo, S. A., Hartini, N., & Kurniawan, A. 2023), (Bachtiar, N., Andodo, C., & Hasan, M. I. 2024), dan (Hasni, N. I., Supriatun, E., & Toruan, S. A. L. 2023).

CONCLUSION

Based on the objectives, results and discussion, the conclusion of this article is to formulate a hypothesis for further research, namely:

- 1) Physical Activity Plays a Role in High School Students
- 2) Good Mental Health Plays a Role in High School Students

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