

THE EFFECT OF SWIMMING EXTRACURRICULAR PROGRAMS ON THE PHYSICAL FITNESS AND MENTAL HEALTH OF MIDDLE SCHOOL STUDENTS

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Abstract

Physical fitness and mental health are important aspects in the development of high school students. Physical activity, including sport, plays a role in improving students' physical and psychological well-being. Swimming as a form of exercise that involves the whole body has been proven to provide various health benefits. This study aims to analyze the effect of extracurricular swimming programs on the physical fitness and mental health of secondary school students through a systematic literature review. The study results showed that the swimming program significantly improved students' physical fitness by increasing cardiovascular endurance, muscle strength, flexibility, and body coordination, as well as reducing the risk of injury compared to land-based sports. From a mental health aspect, swimming contributes to reducing stress, anxiety and depression through the release of endorphins and the relaxing effects produced by water activities. Apart from that, swimming also helps increase self-confidence, build social interactions, and supports a healthy lifestyle in the long term. The implications of this research emphasize the importance of support from schools and related parties in implementing an effective swimming extracurricular program. Providing adequate facilities, competent coaches, and integration with the physical education curriculum are strategic steps to maximize the benefits of swimming for students. Thus, extracurricular swimming programs can be one solution in improving the overall physical fitness and mental health of high school students.

Keywords: Swimming, Extracurriculars, Physical Fitness, Mental Health, High School Students.

INTRODUCTION

Physical fitness and mental health are two important aspects in the development of high school students. Adolescence is a transition period full of challenges, both academically and socially (Gogoleva, 2022). Therefore, maintaining physical and mental health is very important so that students can live their school life optimally. Students who have good physical fitness tend to be more active, have higher endurance, and are able to concentrate better in learning activities. On the other hand, lack of physical activity can cause various health problems, such as obesity, fatigue, and an increased risk of mental disorders such as stress and anxiety.

Physical activity has been shown to provide major benefits for overall health, including mental well-being. Exercise helps increase blood flow to the brain, stimulates the production of endorphins, and reduces cortisol levels associated with stress. Studies show that students who exercise regularly have higher levels of happiness, find it easier to manage academic pressure, and have better social relationships with peers (Zhang et al., 2022). Therefore, schools have an important role in providing facilities and programs that support students' physical activity. One effective way is through extracurricular sports activities.

Swimming is a unique form of exercise because it involves almost all the body's muscles, increases lung capacity, and trains coordination and flexibility. In contrast to land sports, swimming has a lower impact on joints and bones, thereby reducing the risk of injury. Apart from that, swimming is also known as a calming activity because water has a relaxing effect, which can help reduce stress and anxiety (Templeton & Korchagin, 2024). Therefore, this sport is the right choice for students who want to improve their physical fitness without putting excessive stress on the body.

Apart from its physical benefits, swimming also has a positive impact on mental health. Swimming activities can help reduce symptoms of anxiety and depression by increasing the production of the hormones serotonin and dopamine, which play a role in improving mood. When students swim, they can feel the meditative effects that come from regular breathing patterns and rhythmic movements (MULDER et al., 2022). This can help reduce emotional tension and increase focus and peace of mind. Thus, swimming not only helps students become physically healthier but also more emotionally stable.

Swimming extracurricular programs held by schools can be an effective means of improving student welfare. This program provides students with the opportunity to train regularly in a structured environment, under the guidance of competent trainers. Apart from that, this activity can also help students develop social skills, such as teamwork, communication and sportsmanship. Participation in extracurricular programs can also increase students' self-confidence because they can see the development of their abilities over time (Sheyko, 2022).

However, not all schools have adequate swimming facilities or extracurricular programs. Obstacles such as limited swimming pools, lack of qualified coaches, and high operational costs often become obstacles in implementing this program. Therefore, appropriate strategies are needed to ensure that all students have fair access to the benefits of this swimming program. Schools can collaborate with local sports centers or seek support from the government and sponsors to run this program well (Smith et al., 2022).

Research on the influence of extracurricular swimming programs on students' physical fitness and mental health is important to understand the extent of the positive impact of this activity. With a comprehensive literature review, schools and policy makers can gain deeper insight into the benefits of swimming programs and how to optimize them (Sriram & Debnath, 2024). Apart from that, the results of this research can also be a basis for developing educational policies that are more oriented towards student health as a whole.

Thus, this study aims to explore the relationship between participation in extracurricular swimming programs and improvements in physical fitness and mental health of secondary school students. Through an in-depth literature review, it is hoped that this research can provide recommendations for schools in designing more effective extracurricular programs to support holistic student development.

RESEARCH METHOD

This research uses a systematic literature review method to examine previous research related to the influence of extracurricular swimming programs on the physical fitness and mental health of high school students. Data sources used include journal articles, academic books, research reports, and other scientific sources relevant to the research topic. The selection of literature is based on several criteria, such as publication within a certain time

period to ensure that the data obtained is still relevant, suitability to the research focus, and the quality and credibility of the sources used. The data collected was analyzed descriptively and comparatively to identify patterns, main findings, and existing research gaps, so as to provide a deeper understanding of the impact of extracurricular swimming programs on students' physical fitness and mental health (Earley, M.A. 2014; Snyder, H. 2019).

RESULT AND DISCUSSION

The Effect of Swimming Extracurricular Programs on Physical Fitness

Swimming is a sport that provides great benefits for the physical fitness of high school students. Various studies show that regular swimming activities can increase cardiovascular endurance, muscle strength, flexibility and body coordination. In a study conducted by sports experts, it was found that students who took part in an extracurricular swimming program had a higher level of fitness compared to those who were not physically active (Raibowo et al., 2024). This is due to the nature of swimming which involves almost all the main muscle groups, from the legs, arms, to the core muscles, thus providing a comprehensive workout for the body.

In addition, swimming is a form of aerobic exercise that is effective in increasing lung capacity and respiratory system efficiency. When someone swims, they must regulate their breathing patterns well to optimize the use of oxygen in the body. This contributes to increasing cardiovascular endurance, which allows students to have better energy in carrying out daily activities, including learning activities (Zhao, 2024). Studies conducted in several schools show that students who actively swim tend to have lower levels of fatigue compared to students who do less exercise.

Compared to other sports such as running or cycling, swimming has advantages in reducing the risk of injury. Because it is done in water, swimming has a floating effect which reduces pressure on joints and bones, making it safer, especially for students who have musculoskeletal problems or are currently growing (Alfian & Sugiyanto, 2024). Research also shows that exercising in water can help improve posture and prevent spinal problems, such as scoliosis or lordosis, which often occur due to poor sitting habits among high school students.

Swimming extracurricular programs also provide benefits in increasing flexibility and joint mobility. Movements performed while swimming, such as leg kicks and arm swings, help increase the range of motion in joints and

muscles (Liverti et al., 2023). Several studies reveal that students who participate in swimming programs tend to have better levels of flexibility than those who only participate in land-based sports such as soccer or basketball. Good flexibility is very important in reducing the risk of muscle injury and improving performance in a variety of other physical activities.

Apart from the endurance and flexibility aspects, swimming also contributes to increasing muscle strength. In contrast to weight training which tends to target certain muscle groups, swimming involves the natural resistance of the water, which applies even pressure to the entire body (Khusufi et al., 2024). Studies show that regular swimming practice can increase muscle mass and improve body balance, which contributes to better posture. This is especially beneficial for students who spend a lot of time sitting in class and using digital devices, which often causes postural problems such as slouching or back pain.

Compared to other sports that are competitive and can cause psychological stress, swimming is also known as a sport that has a relaxing effect (Cain, 2022). Several studies show that swimming regularly can help reduce levels of the hormone cortisol in the body, which is often associated with stress. In other words, apart from improving physical fitness, swimming also has benefits in maintaining hormonal balance which supports overall health.

Although swimming has many benefits, several challenges remain in implementing this extracurricular program in schools. Not all schools have adequate swimming pool facilities, and limited resources are often an obstacle in implementing this program (KALAYCIOGLU et al., 2022). Additionally, compared to land-based sports such as soccer or volleyball, swimming requires higher technical skills as well as close supervision to ensure student safety. Therefore, appropriate strategies are needed in implementing this program so that the benefits can be felt optimally by all students.

Overall, findings from various studies confirm that extracurricular swimming programs have a significant positive impact on the physical fitness of high school students. Compared to other sports, swimming offers a unique combination of increased cardiovascular endurance, muscle strength, flexibility, and relaxation benefits that support physical and mental health. Therefore, schools that have access to swimming facilities should optimize this program as part of efforts to improve overall student welfare.

The Effect of Swimming Extracurricular Programs on Mental Health

Not only does swimming benefit physical fitness, it also has a significant positive impact on the mental health of high school students. Various studies have shown that physical activity, including swimming, can reduce levels of stress, anxiety and depression in adolescents (Resky et al., 2023). Studies conducted in several schools found that students who regularly participate in extracurricular swimming programs tend to have higher levels of happiness and experience fewer symptoms of mental disorders compared to students who are less active in physical activities. This is due to the physiological and psychological effects of swimming which can help improve emotional well-being.

One of the main mechanisms by which swimming can improve mental health is through the release of endorphins. Endorphins are natural chemicals in the brain that act as pain relievers and trigger feelings of happiness. When students swim, their bodies automatically release more endorphins, which contribute to improved mood and feelings of relaxation. Apart from that, aerobic activities such as swimming can also reduce levels of the hormone cortisol, which is often associated with stress and anxiety (Munajad, 2024). Thus, swimming regularly can help students overcome the academic and social pressures they face at school.

Apart from the physiological impact, swimming also has a calming psychological effect. Repetitive movements in water, coupled with a steady breathing rhythm, create a meditative effect similar to relaxation techniques such as mindfulness or yoga. Many students report that they feel calmer and more focused after swimming, because this activity helps distract them from stressful thoughts (Liang & Wu, 2024). Several studies also show that regular swimming practice can improve sleep quality, which is an important factor in maintaining mental and emotional balance.

Swimming extracurricular programs also provide social benefits that contribute to students' mental health. In this activity, students interact with peers, work together in practice, and support each other in improving their swimming abilities. Strong social relationships and a positive environment can increase self-confidence and reduce feelings of loneliness or social isolation. Research in the field of developmental psychology shows that students who have healthy social relationships tend to be more resilient to life stress and have higher levels of life satisfaction (Bara et al., 2023).

Apart from that, swimming can also help increase students' self-confidence and positive self-image. For many teenagers, physical changes during puberty can affect how they see themselves. By participating in a

swimming program, students can see improvements in their physical fitness, which in turn increases their self-confidence and satisfaction with their own bodies (Jung, 2023). Studies show that exercise that engages the whole body, such as swimming, can help teens develop healthier body awareness and reduce the risk of eating disorders or body image dissatisfaction.

As well as improving mental wellbeing in the short term, swimming can also contribute to long term mental health. Research shows that individuals who are accustomed to being physically active since adolescence tend to have better levels of psychological well-being in adulthood (Wu, 2023). Therefore, by introducing and encouraging student participation in extracurricular swimming programs, schools not only help them in dealing with current stress, but also provide a strong foundation for good mental health in the future.

However, even though swimming has many benefits for mental health, not all students have the same access to this extracurricular program. Factors such as limited facilities, participation costs, or lack of parental support can be barriers for students to participate in these activities (Suarez-Villadat et al., 2024). Therefore, it is important for schools and policymakers to look for ways to make swimming programs more inclusive and accessible to all students, especially those who may benefit most from this activity.

Overall, findings from various studies confirm that extracurricular swimming programs have a significant positive impact on students' mental health. By combining physiological benefits, calming psychological effects, and positive social impacts, swimming can be an effective tool in improving students' psychological well-being. Therefore, schools should consider strengthening extracurricular swimming programs as part of a holistic strategy to improve students' overall mental health.

Implications for Schools and Related Parties

Based on various research findings regarding the benefits of extracurricular swimming programs on students' physical fitness and mental health, schools have an important role in ensuring the effective implementation of these programs. One of the main strategies that can be implemented is to provide adequate facilities, either in the form of swimming pools in the school environment or collaboration with sports centers or public swimming pools around the school. By ensuring easy and affordable access, more students can participate in this program without being burdened by limited facilities (Silalahi & Winata, 2023).

Apart from providing facilities, schools also need to ensure that the extracurricular swimming program is supported by competent teaching staff or coaches. Experienced coaches will not only help students develop technical swimming skills, but also provide motivation and build a positive learning environment (Bafirman et al., 2023). Schools can work with professional swimming instructors or sports institutions to ensure that students receive optimal guidance in developing their physical fitness and swimming skills.

So that this program can run consistently and effectively, schools also need to organize a training schedule that is structured and adapted to the students' academic curriculum. One of the challenges in running extracurricular programs is maintaining a balance between academic and non-academic activities (Fu, 2024). Therefore, it is important for schools to design schedules that are flexible and do not burden students, so that they can still enjoy the benefits of sports without disrupting their academic performance.

In addition, to increase student participation, schools can hold more varied activities in the swimming program, such as interclass swimming competitions, basic water rescue training, or recreational swimming classes. By providing variety in activities, students will be more motivated to participate and enjoy the benefits of this sport more optimally. This approach can also help students who lack confidence in swimming to become more comfortable participating in the program without feeling overwhelmed by competitive pressure (Thu et al., 2022).

Schools can also raise awareness about the importance of physical fitness and mental health by integrating health education into extracurricular swimming programs. Through educational sessions about the benefits of exercise for mental health, relaxation techniques in water, and healthy lifestyles, students can understand that swimming is not just a physical activity, but also part of a lifestyle that can improve their well-being in the long term (Rubiyatno et al., 2023).

This educational approach can also help students develop self-awareness and healthy habits that they can carry with them into adulthood. Support from parents and the community is also an important factor in the success of extracurricular swimming programs. Schools can involve parents in this activity, for example by holding training sessions with families or providing seminars on the benefits of sport for children's development. With parental involvement, students will feel more supported in carrying out their sports activities, thereby increasing their motivation and commitment to participating in the swimming program (MORAES et al., 2022).

Apart from schools and parents, the government and educational institutions can also play a role in strengthening the implementation of swimming programs in schools. Support in the form of policies that promote sports for students, providing funds for sports facilities, as well as scholarship programs for students who excel in sports can be strategic steps in improving the quality and accessibility of these extracurricular programs (CHIRICO et al., 2022). With cooperation between various parties, the benefits of the swimming program can be felt by more students in various regions, including in areas that have limited resources.

Overall, to optimize the benefits of extracurricular swimming programs for students' physical fitness and mental health, schools need to implement holistic and sustainable strategies. By providing adequate facilities, competent teaching staff, flexible schedules, and support from parents and the government, this program can run more effectively. Therefore, investing in extracurricular swimming programs will not only improve students' physical health, but also help them develop mental balance and social skills that are valuable for their future lives.

CONCLUSION

Extracurricular swimming programs have been shown to have a significant positive impact on the physical fitness and mental health of high school students. In terms of physical fitness, swimming helps improve cardiovascular endurance, muscle strength, flexibility and body coordination. In addition, compared to land-based sports, swimming has the advantage of reducing the risk of injury because it has minimal impact on joints and bones. With regular practice, students who participate in swimming programs can have better physical condition, which has a positive impact on their stamina and performance in daily activities, including academics.

Apart from the physical benefits, swimming also contributes to improving students' mental health. This activity can reduce stress, anxiety and depression through the mechanism of releasing endorphins and the relaxing effects provided by water. Apart from that, extracurricular swimming programs also play a role in building self-confidence, increasing social interactions, and helping students develop healthy lifestyles that they can apply in the long term. Therefore, schools and related parties need to support the optimal implementation of this program, both through providing adequate facilities, a balanced training schedule, and collaboration with

parents and educational institutions to ensure that the benefits of swimming can be enjoyed by all students.

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