



SOCIALIZATION OF AEROBIC EXERCISE FOR ADOLESCENT: IMPROVING PHYSICAL AND MENTAL HEALTH OF ADOLESCENT IN THE DIGITAL ERA**Oleh****Poppy Elisano Arfanda¹, Ians Aprilo², M. Adam Mappompo³, Retno Farhana Nurulita⁴, Arimbi⁵****^{1,2,3,4,5}Faculty of Sports and Health Sciences, Makassar State University****E-mail: ¹poppy.elisano@unm.ac.id**

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Abstract: *Aerobic dance socialization is designed to improve adolescents' physical and mental fitness in the challenging digital era. This activity involved 76 adolescents in Makassar with a focus on educating the benefits of aerobic exercise, practicing basic movements, and promoting an active lifestyle. Pretest-posttest evaluations showed increased participants' understanding and skills related to the benefits of aerobic exercise. This program succeeded in forming independent and group exercise habits, supported by interactions through social media groups as a platform for sharing experiences. The results of the activity showed that aerobic exercise not only had an impact on improving cardiorespiratory fitness but also mental health, including reducing stress and improving mood. This activity underscores the importance of physical activity in supporting adolescent well-being holistically.*

INTRODUCTION

In this digital era, teenagers tend to spend quite a long time in front of the screen to play games, watch videos, or interact on social media. Lack of physical activity is a common phenomenon in teenagers, and this can lead to decreased physical fitness and potentially cause various health problems such as obesity, impaired posture, and decreased endurance. To overcome this, it is important to introduce physical activities that can attract the interest of teenage girls, one of which is aerobic dance which is easy to learn and fun¹²

Aerobic exercise is a form of physical exercise that is useful for increasing endurance, strengthening the heart, improving blood circulation, and increasing lung capacity. In addition to physical benefits, aerobic exercise also has a positive impact on mental health, because this activity can stimulate the production of endorphins - hormones associated with feelings of happiness and reducing stress. In adolescence, where academic and social

¹ Desmawati, "Description of Sedentary Lifestyle and Weight of Millennial Adolescents in Tangerang, Banten," *Journal of Public Health* 11 (2019): 296–301, <https://jikm.upnvj.ac.id/index.php/home/article/view/50>.

² Galih Tri Utomo, Said Junaidi, and Setya Rahayu, "Aerobic Exercise to Reduce Weight, Fat, and Cholesterol," *JSSF (Journal of Sport Science and Fitness)* 1, no. 1 (2012): 6–10.



pressures are often high, aerobic exercise can be a healthy outlet for dealing with stress and improving quality of life³⁴⁵.

Although many adolescents understand the importance of physical activity, not all have access to or the opportunity to engage in structured sports. In many schools or communities, sports programs are limited to formal PE classes, which often do not include activities that specifically interest adolescents, such as aerobic dance. In addition, the lack of information about the specific benefits of certain types of exercise such as aerobic dance makes adolescents less interested in trying or continuing them independently. Therefore, socialization that provides education and practical guidance on aerobic dance is very much needed.⁶

This activity is designed to achieve several main objectives that focus on increasing awareness, understanding, and practice of aerobic exercise for adolescents. Increasing Adolescent Understanding of the Benefits of Aerobic Exercise by providing information about the positive impacts of aerobic exercise on physical and mental health, especially for adolescents. By understanding these benefits, adolescents are expected to be more motivated to actively do aerobic exercise as part of a healthy lifestyle for adolescent girls. The general concept of aerobic exercise, including how this activity can improve cardiovascular endurance, strengthen muscles, and help control weight⁷⁸⁹.

This socialization activity also invites teenagers to start doing physical activities regularly by choosing aerobic dance as a form of exercise that can be done alone or with friends. Encourage teenagers to actively participate during activities by holding fun group exercise sessions, so that teenagers can directly feel the benefits and excitement of aerobic dance¹⁰¹¹¹².

Introducing basic aerobic dance techniques and examples of movements that are easy

³ Dedy Pranata, "The Effect of Sports and Physical Training Models on Adolescent Physical Fitness," *Journal of Sports Health* 10 (2022): 107–116.

⁴ Citra Darminto et al., "Development of Aerobic Gymnastics for Adolescents and Housewives to Maintain Physical Fitness of the Manunggal Makmur Village Community, Kuala Jambi District, East Tanjung Jabung Regency," *BangDimas: Journal of Community Development and Service* 2, no. 1 (2023): 1–5.

⁵ Poppy Elisano Arfanda et al., *Gerakan Dasar Langkah Kaki Dan Tangan Dalam Senam Aerobik*, 1st ed. (Pekalongan, Jawa Tengah: Nasya Expanding Management, 2024).

⁶ Leila Oja and Jaanika Paksõõt, "Physical Activity and Sports Participation among Adolescents: Associations with Sports-Related Knowledge and Attitudes," *International Journal of Environmental Research and Public Health* 19, no. 10 (2022).

⁷ Ian Janssen and Allana G. LeBlanc, "Systematic Review of the Health Benefits of Physical Activity and Fitness in School-Aged Children and Youth," *School Nutrition and Activity: Impacts on Well-Being* (2015): 183–219.

⁸ Trevor Archer, "Health Benefits of Physical Exercise for Children and Adolescents," *Journal of Novel Physiotherapies* 04, no. 02 (2014).

⁹ Tianyi Shao and Xiaogang Zhou, "Correlates of Physical Activity Habits in Adolescents: A Systematic Review," *Frontiers in Physiology* 14, no. April (2023): 1–9.

¹⁰ Antonio Stabelini Neto et al., "Improving Physical Activity Behaviors, Physical Fitness, Cardiometabolic and Mental Health in Adolescents - ActTeens Program: A Protocol for a Randomized Controlled Trial," *PLoS ONE* 17, no. 8 August (2022): 1–17.

¹¹ Darminto et al., "Development of Aerobic Gymnastics for Adolescents and Housewives to Maintain Physical Fitness of the Manunggal Makmur Village Community, Kuala Jambi District, East Tanjung Jabung Regency."

¹² Maria J. Camacho-Miñano, Nicole M. LaVoi, and Daheia J. Barr-Anderson, "Interventions to Promote Physical Activity among Young and Adolescent Girls: A Systematic Review," *Health Education Research* 26, no. 6 (2011): 1025–1049.



to apply at home. Teaching basic aerobic dance techniques through demonstrations and direct training, so that teenagers can understand and practice basic movements correctly. In addition, it also provides a guide to movements that are easy and safe to do at home without the need for special equipment, so that teenagers can continue training independently.

The last is to provide an understanding of the correlation between physical activity and mental and physical health by conveying the importance of physical activity as one way to maintain mental health, including how aerobic dance can help reduce stress, improve mood, and support healthy mental development. And linking the impact of physical activity such as aerobic dance with long-term health aspects, including the risk of chronic diseases that can be prevented by an active lifestyle.

With increased knowledge and understanding of the benefits and techniques of aerobic dance, it is hoped that adolescents can adopt active and healthy living habits, which will also have a positive impact on the quality of life of adolescent girls in the future. This socialization shows that aerobic dance socialization activities are not only aimed at increasing knowledge of its benefits but also encouraging changes in a more active and healthy lifestyle in adolescents amidst the challenges of the digital era.

METHOD

This aerobic dance socialization program is designed to reach certain groups that can receive direct benefits from this activity. It also supports the creation of an active and healthy lifestyle culture among teenagers.

The main target group of this activity is teenage girls aged 17-20 years who do not participate in any sports community. 76 adolescents in Makassar City were selected as partners in this activity. This age group is in rapid physical, emotional, and social development, so they need special attention regarding health and physical fitness. Teenagers at this age are vulnerable to academic, social, and digital pressures that have the potential to affect the physical and mental health of teenage girls. Regular physical activity, such as aerobic dance, can help overcome these challenges by improving physical fitness and emotional stability.

Before the session began, partners were given a questionnaire to be filled out and assessed by themselves about their physical health and general health. Questionnaires were also distributed before and after the activity to assess the level of understanding of partners regarding the benefits and basic techniques of aerobic dance. Socialization and education through short seminars on the importance of physical activity for adolescent health, especially aerobic dance. The benefits of aerobic dance are for physical health such as cardiovascular fitness and weight control and mental health such as stress reduction and improved mood.

Aerobic gymnastics workshop activities that involve teenagers directly to practice basic aerobic gymnastics movements. Doing warm-ups that involve stretching movements and joint mobilization to avoid injury. The gymnastics instructor will demonstrate some basic aerobic gymnastics movements, such as marching in place, side steps, knee lifts, and grapevine. Teenagers will be invited to follow the instructor with musical accompaniment to create a fun atmosphere. The session closes with a cool-down movement to help lower the heart rate gradually and stretch the muscles used. Through direct practice, teenagers will



understand safe and effective aerobic gymnastics movements, which can be done alone or with friends at home¹³.

After the workshop, adolescents will be provided with materials and guidance to help young women continue their aerobic exercise outside of this activity. A guidebook will be provided containing instructions on basic movement steps, the benefits of each movement, and suggestions for safe exercise duration for adolescents. Links or short video files will also be provided showing the movements that have been learned, as a self-guided media that is easy to access at home. The goal is to ensure that adolescents have the resources to support the continuation of independent aerobic exercise practices.

After the activity, an evaluation was conducted to measure the increase in adolescents' understanding of aerobic dance and its benefits. Forming a social media group that functions as a platform for sharing experiences, exercise tips, and guidance from instructors. This group is also a medium for monitoring the sustainability of aerobic dance activities independently by partners. Evaluating the effectiveness of activities and ensuring that partners get optimal benefits and have the opportunity to ask questions or consult regarding aerobic dance exercises.

This activity method aims to provide an educational, interactive, and sustainable experience for teenagers in getting to know and practicing aerobic dance as part of a healthy lifestyle.

Table 1. Implementation of Activities

No	Activity	Description	Time
1	Preparation	<ul style="list-style-type: none"> - Organizing the material - Prepare equipment and media (videos and guidebooks) 	Week 1
2	Socialization and Education	<ul style="list-style-type: none"> - Presentation of material on aerobic exercise for the physical and mental health of adolescents - Question and answer session 	Week 2
3	Aerobic Gymnastics Workshop	<ul style="list-style-type: none"> - Demonstration and training - Activities include: warming up, this and cooling down. 	Week 2
4	Independent assignment	<ul style="list-style-type: none"> - Designing aerobic exercise movements independently based on a guidebook 	Week 2
5	Evaluation	-	Week 3

¹³ Poppy Elisano Arfanda, *Peningkatan Kondisi Fisik Melalui Variasi Senam Aerobik*, ed. Moh. Nasruddin, 1st ed. (Pekalongan, Jawa Tengah: Nasya Expanding Management, 2023).



Figure 1. Activity Implementation Flow

RESULTS

The questionnaire provided includes a self-assessment of physical health and general health.

Table 1. Descriptive Statistics of Data

Variables	N	Min	Max	Range	Sum	Mean	SD	Variance
Physical Health	76	15	30	15	1874	24.66	3.97	15.72
General Health	76	7	25	18	1335	17.57	3.05	9.32

Table 1 shows that the number of female adolescents involved was 76 people, physical health showed a minimum value of 15, a maximum value of 30, a range of 15, a total of 1874, an average of 24.66, a standard deviation of 3.97 and a variance of 15.72. General health showed a minimum value of 7, a maximum value of 25, a range of 18, a total of 1335, an average of 17.57, a standard deviation of 3.05, and a variance of 9.32.

DISCUSSION

The results of the implementation of socialization of aerobic gymnastics for adolescents include increasing understanding, and skills, and the creation of an active lifestyle culture among teenagers. Increasing knowledge and awareness of teenagers regarding the importance of physical activity, one of which is aerobic gymnastics. Teenagers have a better understanding of the benefits of aerobic gymnastics, both in terms of physical and mental health. Success is assessed from the results of the pre- and post-activity questionnaires which show an increase in partner knowledge regarding aerobic gymnastics and its benefits.^{14,15}

Good education about physical activity, including aerobic dance, can improve adolescents' understanding of the importance of physical and mental fitness. Education

¹⁴ Andy Supriady and Nancy Trisari Schiff, "Socialization of Aerobic Gymnastics Sports to Improve Physical Fitness of the Pamoyanan Community," Jurnal Aksara Raga 3, no. 1 (2021): 33–41.

¹⁵ Darminto et al., "Pengembangan Olah Tubuh Senam Aerobic Bagi Remaja Dan Ibu-Ibu Rumah Tangga Untuk Menjaga Kebugaran Jasmani Masyarakat Desa Manunggal Makmur, Kecamatan Kuala Jambi, Kabupaten Tanjung Jabung Timur."



integrated with direct practice has been shown to be effective in increasing adolescents' awareness and participation in regular sports activities.¹⁶ Programs such as aerobic exercise increase partners' knowledge about the benefits of physical activity, while encouraging independent exercise habits. This study supports the finding that pretest-posttest based measurement is a valid method for assessing program success.¹⁷¹⁸¹⁹ Several studies have highlighted the positive impact of aerobic exercise on the physical and mental health of adolescents, showing that aerobic-based physical activity contributes to stress reduction, improved mood, and long-term fitness. This study underlines the importance of aerobic exercise in influencing both of these aspects.²⁰

Teenagers who participate in this activity are expected to start exercising, especially aerobic dance, independently or with a group. The success of the activity is based on reports from teenagers or parents regarding increased frequency of physical activity, as well as discussions or interactions in social media groups formed as a medium for sharing aerobic dance experiences. Aerobic dance that are done routinely can improve cardiorespiratory fitness in teenagers. The method used is a pretest-posttest experimental design, and the results showed a significant increase in the group that participated in aerobic dance. This proves its effectiveness in supporting independent exercise habits.²¹

Exercise-based intervention programs such as aerobic exercise can increase the frequency of physical activity in adolescents. This is because the program provides a better understanding of the importance of physical activity and intrinsic motivation to stay active. The study also confirmed that the success of the program was assessed by partner or family reports of changes in physical activity patterns.²²²³ Adolescent aerobic dance skills improved after being given direct practice in the socialization program. Moreover, this program encourages adolescent girls to start exercising habits independently or with a group. Group-based activities like this have a positive effect on motivation, because social support from peers becomes a reinforcement to continue participating consistently.

Group-based physical activity, such as aerobic dance, increases social engagement and partner motivation. By forming groups on social media, adolescents are encouraged to share experiences and support each other, which reinforces active lifestyle habits. Aerobic exercise

¹⁶ M. Syukur Zulbandi Sitepu, James Tangkudung, and Wahyuningtyas Puspitorini, "Pengaruh Latihan Senam Aerobik Dan Motivasi Berolahraga Terhadap Penurunan Persentase Lemak Tubuh," *Penjaskesrek Journal* 7, no. 1 (2020): 45–59.

¹⁷ María Rodríguez-Ayllon et al., "Role of Physical Activity and Sedentary Behavior in the Mental Health of Preschoolers, Children and Adolescents: A Systematic Review and Meta-Analysis," *Sports Medicine* 49, no. 9 (2019): 1383–1410, <https://doi.org/10.1007/s40279-019-01099-5>.

¹⁸ David Lubans et al., "Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms," *Pediatrics* 138, no. 3 (2016).

¹⁹ Esther M.F. van Sluijs et al., "Physical Activity Behaviours in Adolescence: Current Evidence and Opportunities for Intervention," *The Lancet* 398, no. 10298 (2021): 429–442, [http://dx.doi.org/10.1016/S0140-6736\(21\)01259-9](http://dx.doi.org/10.1016/S0140-6736(21)01259-9).

²⁰ David Thivel et al., "High-Intensity Interval Training in Overweight and Obese Children and Adolescents: Systematic Review and Meta-Analysis," *Journal of Sports Medicine and Physical Fitness* (2019): 310–324.

²¹ M. Syukur Zulbandi Sitepu, James Tangkudung, and Wahyuningtyas Puspitorini, "Pengaruh Latihan Senam Aerobik Dan Motivasi Berolahraga Terhadap Penurunan Persentase Lemak Tubuh."

²² van Sluijs et al., "Physical Activity Behaviours in Adolescence: Current Evidence and Opportunities for Intervention."

²³ Neto et al., "Improving Physical Activity Behaviors, Physical Fitness, Cardiometabolic and Mental Health in Adolescents - ActTeens Program: A Protocol for a Randomized Controlled Trial."



not only improves physical health but also has positive effects on mental health, such as reducing stress levels and improving mood. This study highlights the importance of physical activity for psychological well-being, especially among adolescents.²⁴

Previous studies have shown that regular aerobic exercise can improve cardiorespiratory fitness by 7%, as evidenced by a pretest-posttest design study. In addition, this exercise also has a positive impact on mental health, such as reducing stress and improving mood. This shows the importance of aerobic exercise as a holistic physical activity to support adolescent well-being.

CONCLUSION

The aerobic dance socialization activity for teenagers has succeeded in achieving its goal, namely increasing knowledge and awareness of teenagers about the importance of physical activity, especially aerobic dance, in maintaining the physical and mental health of teenage girls. Through educational sessions, training, and distribution of gymnastics guides, partners have been given sufficient understanding to apply aerobic dance in everyday life. In addition, the formation of discussion groups and aerobic dance communities among teenagers is a positive indication that teenagers are increasingly concerned about the importance of an active lifestyle. This program has succeeded in creating a fun sports culture that can be applied independently, both at home and in the surrounding environment.

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HALAMAN INI SENGAJA DIKOSONGKAN