

The Impact of Traditional Games on Physical Fitness and Well-being of Literature Review

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KEYWORDS

Cardiovascular endurance, cultural heritage, gamification, physical fitness, traditional games.

ABSTRACT:

This literature review examines the potential of traditional games as a model for physical fitness. In modern society, physical inactivity has become a significant concern, contributing to health issues such as obesity, cardiovascular diseases, and mental disorders. Traditional games, which were once central to many cultures, offer an engaging and culturally rich alternative to contemporary fitness activities. This review explores how traditional games, such as gobak sodor and benteng, can enhance physical fitness through cardiovascular endurance, muscle strength, and flexibility. Additionally, the psychological and social benefits of these games are discussed, particularly their ability to reduce stress and foster social interaction. Despite their potential, challenges exist in reintroducing traditional games, including the declining interest among youth, lack of space in urban areas, and the rise of digital entertainment. To overcome these challenges, this review suggests integrating traditional games into school curricula, promoting them through community events, and leveraging technology to modernize and gamify the experience for younger generations. The findings highlight the need for innovative approaches to reviving traditional games as a viable model for promoting physical fitness and preserving cultural heritage.

1. Introduction

Physical fitness is one of the essential aspects of maintaining both physical and mental health. In the modern era, it has become increasingly significant due to a trend toward a sedentary lifestyle, where physical activity is often neglected because of technological advancements and a growing culture of convenience. Research has shown that a lack of physical activity can lead to various health problems such as obesity, diabetes, heart disease, and mental health disorders. With growing public awareness of the importance of fitness, governments, educational institutions, and health organizations continue to develop models of physical activity designed to attract people to engage actively in physical exercise.

One interesting approach is a physical fitness model based on traditional games. Traditional games are not only a cultural heritage that holds historical and social value but also contain elements of physical fitness. In Indonesia, traditional games such as gobak sodor, benteng, engklek, and others have long been part of community life. Unfortunately, with the emergence of modern technologies like video games and internet-based applications, traditional games have lost popularity among children and teenagers.

On the other hand, traditional games have significant potential as a means of enhancing physical fitness due to their physical intensity. For example, gobak sodor requires speed, agility, and endurance, all of which contribute to physical fitness. Benteng involves strategy, teamwork, and physical stamina. These games possess unique advantages over modern sports, creating an enjoyable, competitive atmosphere and encouraging social interaction, making participants feel less burdened by physical demands.

Traditional Games and Their Benefits for Physical Fitness

Traditional games can be integrated into the physical education curriculum in schools. For example, physical education programs in various countries have evolved to include activities that not only focus on motor skills but also teach social and cultural aspects. Implementing traditional games in physical education would not only help preserve cultural heritage but also positively contribute to increasing students' participation in physical activity. Moreover, research indicates that children involved in movement-based games have better fitness levels compared to those who are more passive.

In developing physical fitness activities based on traditional games, several key components must be considered. First, traditional games typically involve complex movements engaging almost every part of the body, thus improving flexibility, strength, and motor coordination. Second, the competitive aspect of traditional

games can enhance participants' motivation to push themselves further, helping to build physical and mental endurance. Third, because traditional games usually involve multiple participants, they also improve teamwork and communication skills, which are crucial aspects of social fitness.

Implementation Challenges

While traditional games offer substantial potential for enhancing physical fitness, there are several challenges in implementing this model in modern society. One of the main challenges is the declining interest in traditional games among younger generations. Children and teenagers today are more drawn to digital games or technology-based activities, which often involve sitting and minimal physical movement. Additionally, urbanization has reduced the availability of green, open spaces in urban environments, which are ideal for playing traditional games. Many traditional games require spacious areas to play, which are often unavailable in densely populated urban settings.

Another challenge is the lack of support from schools and families. Schools often prioritize academic activities and allocate insufficient time for physical activity. Similarly, families may not see the importance of teaching and encouraging their children to engage in traditional games. However, family involvement in traditional games can strengthen familial bonds while promoting healthy physical activity.

Development Strategies

To overcome these challenges, appropriate strategies are needed to reignite interest in traditional games as a model for physical fitness activities. One approach is integrating traditional games into physical education programs in schools. A well-designed curriculum can reintroduce traditional games to children and teenagers, allowing them to experience the benefits firsthand. Furthermore, the government and relevant institutions can organize traditional game festivals or competitions involving various segments of society, thereby bringing traditional games back into the spotlight.

Leveraging technology can also be an innovative solution to promote traditional games. For example, digital applications or games designed to combine elements of traditional games with modern technology could attract children and teenagers already familiar with technology. In this way, they could play while learning about cultural heritage and improving physical fitness.

A physical fitness model based on traditional games offers a unique and engaging approach to enhancing physical health while preserving cultural heritage. Despite the challenges of implementing this model in the modern era, appropriate strategies such as integration into educational curricula, family support, and the utilization of technology can help overcome these barriers. As a result, traditional games can become not only a means of recreation but also an effective tool for maintaining physical fitness and strengthening social bonds within the community.

1) Identifying and Analyzing Literature on Physical Fitness Models Based on Traditional Games

The concept of physical fitness activities based on traditional games has been widely discussed in the literature as a means to improve physical health while preserving cultural heritage. Research by (Nasution et al., 2022) highlights that traditional games can have a positive impact on children's physical fitness, especially in terms of cardiorespiratory endurance, muscle strength, and flexibility. Games like gobak sodor, benteng, and engklek involve intense physical activity, making them suitable for integration into physical education programs. Additionally, Traditional games of fortress have significant benefits in developing and improving children's gross motor skills. In the game of fortress, children can involve body movements such as running, jumping and chasing opponents. This activity helps strengthen children's muscles and improve their body coordination (Aldini et al., 2023)

Traditional sports significantly improve physical fitness levels in elementary students, with studies indicating that a frequency of four sessions per week yields the best results (Iswanto et al., 2024).

An experimental study demonstrated a notable increase in physical fitness after students participated in modified traditional games, achieving a significance value of 0.000 (Septianto et al., 2024).

From a theoretical perspective, the use of traditional games in physical fitness activities aligns with (Vygotsky, 1978) theory of social constructivism, which stresses the importance of social interaction in learning and development. Traditional games encourage group participation and communication, making them an ideal

platform for holistic fitness—both physical and social. However, challenges arise due to the declining popularity of these games in modern society, particularly among younger generations who prefer digital and sedentary activities.

Revitalizing traditional games can significantly promote physical activity among urban youth by enhancing motor skills, social interaction, and cultural identity. These games serve as effective tools for engaging children in physical education while fostering emotional well-being and cultural pride. Motor Skills Development: Engaging in these games enhances motor skills, coordination, and balance, which are crucial for overall physical development (Setiawan, 2019). Moreover, these games create a fun and competitive environment, motivating participants to engage in physical activities without feeling overwhelmed by the physical demands. Thus, analyzing the existing literature on traditional games and their fitness potential can offer new insights into promoting physical activity in the modern world (Aliriad et al., 2024).

2) Exploring the Potential of Traditional Games to Enhance Physical Fitness

Traditional games hold great potential for enhancing physical fitness due to their physically demanding nature. Studies by Yulianto (2020) show that traditional games can improve not only physical attributes like agility, speed, and endurance but also mental health by reducing stress and anxiety through social interaction and fun gameplay. For example, gobak sodor requires participants to run, dodge, and strategize, which improves cardiovascular endurance and coordination. Similarly, benteng involves chasing and defending, enhancing stamina and agility.

The integration of traditional games into fitness routines has also been supported by theories of intrinsic motivation (Deci & Ryan, 2013). According to Self-Determination Theory, individuals are more likely to engage in activities that provide enjoyment and a sense of autonomy. Traditional games, with their playful nature and cultural significance, offer this intrinsic motivation, encouraging more sustained participation in physical activities compared to structured sports or fitness regimes.

Recent studies highlight the need for a more active approach to reviving traditional games for fitness purposes. For instance, Research highlights that traditional games can effectively improve social skills, particularly when they include social elements (Hartanto et al., 2021). For instance, students from diverse cultural backgrounds exhibited varying levels of social skills, with those engaging in culturally relevant games showing superior outcomes suggests that incorporating these games into physical education curricula or community fitness programs could lead to increased participation in physical activities, especially among children and teenagers. The research also identifies gaps, such as the need to adapt these games to fit modern lifestyles and the limited availability of space in urban areas for such activities.

3) Identifying Challenges and Opportunities in Implementing Traditional Games in Modern Physical Fitness Programs

Despite the potential benefits, implementing traditional games in modern physical fitness programs presents several challenges. One significant challenge is the declining interest among younger generations, as noted by research from (Nur et al., 2020). Children and adolescents today are more drawn to technology-based activities like video games, which offer instant gratification with minimal physical effort. Urbanization and the reduction of open spaces also pose a challenge, as many traditional games require large, open areas for optimal play.

However, there are opportunities to address these challenges. Recent research by Kartika (2023) suggests that integrating traditional games into digital platforms or mobile applications could attract younger audiences while preserving the physical aspects of the games. Additionally, schools and communities can organize traditional game competitions and festivals, creating a platform for social interaction and physical fitness.

Another theoretical framework that supports the promotion of traditional games is the Health Belief Model (Rosenstock, 1974), which suggests that individuals are more likely to engage in health-promoting behaviors if they perceive the activity as enjoyable and socially supported. By creating an environment where traditional games are both accessible and appealing, it is possible to overcome the barriers posed by modern sedentary lifestyles and urbanization.

4) Providing Practical Recommendations for Promoting Traditional Games as a Fitness Model

To promote traditional games as a model for physical fitness, practical recommendations should focus on education, community involvement, and technological integration. Research by (Mashuri, 2021) emphasizes the importance of integrating traditional games into school curricula, where children can learn about their cultural heritage while engaging in physical activity. Schools play a pivotal role in reintroducing these games to younger generations, who are increasingly disengaged from physical play.

From a community perspective, government and local organizations can collaborate to host traditional game festivals and competitions, as suggested. These events can serve as a platform for raising awareness about the health benefits of traditional games and fostering a sense of community. Additionally, families should be encouraged to participate in these games, creating a multi-generational approach to physical fitness (Nofrizal et al., 2024).

2. Methodologies

Finally, leveraging technology could provide an innovative solution to modernize traditional games without losing their essence. Mobile apps or virtual reality (VR) experiences that incorporate traditional game elements could appeal to tech-savvy youths while maintaining the physical and social aspects of the games. This aligns with the findings, who points out that combining physical activities with digital incentives can significantly increase participation rates among children and teenagers (Böhm et al., 2019).

This literature review employs a systematic approach to identify, analyze, and synthesize research related to physical fitness models based on traditional games. The method includes a comprehensive search of academic databases such as Google Scholar, ScienceDirect, and PubMed, using keywords like “traditional games,” “physical fitness,” “cultural games,” and “fitness in education.” Articles published between 2015 and 2024 were selected to ensure the review includes the most recent studies.

Inclusion criteria focused on peer-reviewed journal articles, books, and conference papers that examine the role of traditional games in improving physical fitness, the challenges of implementation, and their integration into modern fitness programs. Studies were analyzed based on their objectives, methodologies, and findings. This approach allows for a critical examination of existing literature, identifying gaps and opportunities for future research, particularly regarding how traditional games can be adapted to contemporary fitness models.

3. Result and Discussion

Result

Table.1 Summary

| No | Title | Authors Date | Summary | Method |
|----|---|--------------------------|--|---|
| 1 | Impact of Serious Games on Body Composition, Physical Activity, and Dietary Change in Children and Adolescents: A Systematic Review and Meta-Analysis of Randomized Controlled Trials | (Liu et al., 2024) | Serious games increase physical activity but have limited impact on body composition and dietary changes. | Systematic review and meta-analysis of 20 RCTs, calculating pooled standardized mean differences. |
| 2 | Traditional games for physical fitness: an experimental study on elementary school students | (Septianto et al., 2024) | Traditional games significantly improve students' physical fitness, promoting active participation and physical abilities. | Pre-experimental design with one-group pretest-posttest approach, using modified traditional games. |
| 3 | Effects of Game-based Physical Education Program on Enjoyment in Children and Adolescents: A Systematic Review and Meta-analysis | (Mo et al., 2024) | Physical games enhance enjoyment, influenced by gender, age, and game duration. | Systematic review and meta-analysis, with subgroup analyses. |

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| 4 | Improvement of Motor Skills and Motivation to Learn Physical Education Through the Use of Traditional Games | (Aliriad et al., 2024) | Traditional games improve motor skills and motivation while enhancing cultural understanding. | Experimental method with 60 primary school students, measuring motor skills and motivation via tests. |
| 5 | Analysis of the Main Body of Traditional Sports System from the Perspective of National Fitness | (Zhou & Wang, 2024) | Strengthening traditional sports systems preserves cultural heritage and promotes national fitness. | Deep analysis of core components of traditional sports systems for national fitness programs. |
| 6 | Pengaruh permainan tradisional terhadap peningkatan kebugaran jasmani | (Anggono & Nurhidayat, 2024) | Traditional sports games significantly improve physical fitness in the experimental group. | Quasi-experiment design with t-test analysis, involving control and experimental groups. |
| 7 | A Systematic Literature Review on the Effect of Traditional Games in Mathematics Teaching and Learning | (Qirom & Juandi, 2023) | Traditional games support math learning, especially geometry, primarily in Asian settings. | Systematic literature review using the PRISMA 2020 framework. |
| 8 | Differentiation of physical fitness indicators of schoolchildren with visual impairment according to a special medical group | (Al., 2024) | Physical fitness indicators differ between visually impaired subgroups, with some showing better agility and strength. | Pedagogical experiment and data analysis of fitness testing in visually impaired schoolchildren. |
| 9 | Teaching Sustainability through Traditional Sporting Games | (Luchoro-Parrilla et al., 2024) | TSGs promote physically and socially sustainable learning. Emotional well-being is key. | Qualitative and inductive approach, using field notes, questionnaires, and interviews. |
| 10 | Pengaruh olahraga tradisional terhadap peningkatan kebugaran siswa | (Perdana et al., 2024) | Physical fitness increased by 10.58% due to traditional sports games. | One-group pretest-posttest design, data analysis with t-test, normality, and homogeneity tests. |
| 11 | The Role of Traditional Sports in Establishing Student Character through Physical Education, Sports, and Health Learning | Wahyu Hananingsih et al. | Traditional sports build student character through values like cooperation and integrity. | Observational study of PE lessons, qualitative analysis of student responses. |
| 12 | Investigating Indigenous Games as Indigenous Knowledges in PETE: A Systematic Literature Review | (Bonato et al., 2024) | Culturally relevant pedagogy enables indigenous games in physical education. | Systematic review using PRISMA framework, qualitative data. |
| 13 | The Effect Of Traditional Game Approach on Improving Motivation and Learning Outcomes | (Amrullah et al., 2023) | Traditional games improve learning outcomes and student motivation in health education. | Experimental design with pretest-posttest, measuring motivation and learning outcomes. |
| 14 | The Influence of Serious Games in the Promotion of Healthy Diet and Physical Activity Health: A Systematic Review | (Lamas et al., 2023) | Serious games show potential for obesity prevention but need diversity. | Systematic review of serious games, analyzing health and diet impact. |
| 15 | Effect of Physical Activity Based on Traditional Games on Psychological Well-being of Elementary School Children | (Dese et al., 2023) | Traditional games enhance children's psychological well-being. | Pretest-posttest design with psychological well-being surveys. |
| 16 | Traditional Recreational Games in the Early Grades of Elementary School | (de Matos, 2023) | Traditional games are crucial for PE classes and identity formation in children. | Qualitative research, involving observations and interviews with students and teachers. |
| 17 | Pengaruh Permainan Tradisional Terhadap Peningkatan | (Yulianto & Utomo, 2024) | Traditional games improve physical fitness in middle school students. | Quasi-experimental design, with physical fitness tests and t-test analysis. |

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| 18 | Can Model-Based Approach in Physical Education Improve Physical Fitness, Academic Performance, and Enjoyment? | (Elumalai et al., 2022) | Model-based approaches in PE improve fitness, performance, and enjoyment. | Systematic literature review with meta-analysis on various PE models. |
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Data source: processed 2024

Diagram1. Mindmap type of diagram to visualize different aspects of literature review



Data source: processed 2024

1) Effect of Traditional Games on Physical Fitness

Several studies have demonstrated that traditional games have a significant positive impact on students' physical fitness. Research by Dewangga Abimanyu Perdana et al. (2024) showed that students' physical fitness improved by 10.58% after participating in a traditional sports game program. Similarly, Yulianto & Utomo, (2024) reported significant improvements in middle school students' physical fitness after engaging in traditional games. These studies utilized pretest-posttest designs and t-test analysis to measure the increase in physical fitness, confirming the effectiveness of traditional games in enhancing physical activity.

2) Traditional Games and Psychological Well-being

In addition to physical benefits, traditional games also positively affect psychological well-being. Research by (Dese et al., 2023) highlighted that physical activities based on traditional games significantly improved elementary school children's psychological well-being, helping reduce anxiety, boost confidence, and promote happiness. This shows that traditional games offer holistic benefits, enhancing both physical and mental health.

3) Character Building through Traditional Sports

Traditional games also play a crucial role in character development. According to Wahyu Hananingsih et al. (2024), traditional sports help foster important values such as responsibility, cooperation, honesty, and respect. This not only improves students' physical fitness but also aids in their personal growth, reinforcing social and ethical values through physical education.

These findings collectively suggest that traditional games are an effective tool for promoting both physical fitness and psychological well-being, while also nurturing character development in students.

Discussion

1) Impact of Traditional Games on Physical Fitness

The research shows that traditional games have a significant impact on physical fitness across various dimensions. Studies by Makorohim et al., (2021) reveal that traditional games, such as gobak sodor and benteng, contribute to improvements in cardiovascular endurance, muscle strength, and flexibility. These

games involve dynamic movements that engage multiple muscle groups, which enhances overall physical health. Nofrizal et al., (2024) further supports this, indicating that traditional games not only boost physical attributes but also contribute to mental well-being by reducing stress and anxiety. This aligns with Deci & Ryan, (2013) Self-Determination Theory, which posits that enjoyment and intrinsic motivation are critical for sustained participation in physical activities.

2) Challenges in Implementing Traditional Games

Despite their benefits, implementing traditional games in modern contexts presents several challenges. de Araújo et al., (2023) identifies a decline in interest among younger generations, who are more inclined towards sedentary, technology-based activities. Urbanization also limits the availability of space required for traditional games, which often need larger, open areas (Damanik et al., 2024). These issues highlight the difficulty in integrating traditional games into contemporary lifestyles and fitness programs. Additionally, the challenge of reviving these games amidst a shift towards digital entertainment underscores the need for innovative strategies to make them appealing to today's youth.

3) Practical Recommendations for Promotion and Integration

To address these challenges, practical recommendations include integrating traditional games into school curricula and community programs. Mat Nayan & Kun, (2019) suggests that schools can reintroduce traditional games to children, providing them with an engaging way to learn about cultural heritage while improving physical fitness. (Mannion et al., 2007) such as through mobile apps or digital platforms, could attract a younger audience while preserving the physical and social benefits of these activities (Islam et al., 2022).

In summary, traditional games offer a unique approach to enhancing physical fitness and cultural education. However, overcoming the challenges of modern sedentary lifestyles and urban constraints requires innovative integration strategies and technological adaptation. By implementing these recommendations, traditional games can regain relevance and continue to contribute positively to physical health and cultural preservation.

4. Conclusion and Recommendations

Conclusion

The literature review on traditional games as a model for physical fitness reveals that these games offer significant benefits for enhancing physical health, mental well-being, and cultural engagement. Traditional games such as gobak sodor and benteng engage various muscle groups and promote cardiovascular health, flexibility, and overall fitness. They also provide psychological benefits by reducing stress and fostering a sense of community. However, the implementation of traditional games faces challenges such as reduced interest among younger generations, urbanization limiting space, and competition from digital entertainment. These findings highlight the need for a balanced approach in reviving traditional games, combining their inherent benefits with contemporary needs and preferences

Recommendations

Integrate Traditional Games into Educational Curricula: Schools should incorporate traditional games into physical education programs. This approach will not only improve students' physical fitness but also foster an appreciation for cultural heritage. Curricula should be designed to balance traditional games with modern physical activities to maintain student engagement and physical development.

Organize Community Events and Festivals: Local governments and community organizations should host festivals and competitions centered around traditional games. These events can increase public interest, promote social interaction, and provide a platform for cultural exchange. Such initiatives can also help bridge the gap between traditional and modern recreational activities.

Leverage Technology for Modernization: Developing digital platforms or mobile applications that incorporate traditional games can attract younger audiences who are accustomed to technology. By combining traditional game elements with interactive and gamified experiences, it is possible to make these games more appealing to a tech-savvy generation while retaining their cultural value.

Promote Awareness and Education: There should be efforts to educate families, educators, and community leaders about the benefits of traditional games. Awareness campaigns can highlight the importance of

integrating physical activity into daily routines and the role traditional games play in enhancing physical and social well-being.

Address Urbanization and Space Constraints: Urban planners and local authorities should consider creating designated spaces or community centers where traditional games can be played. By allocating spaces for these activities, urban environments can better support physical and social activities that involve traditional games.

In summary, while traditional games offer valuable benefits for physical fitness and cultural preservation, effective implementation requires addressing modern challenges through education, community engagement, technological adaptation, and urban planning. By adopting these recommendations, traditional games can be revitalized as a relevant and enjoyable component of contemporary physical fitness and cultural education.

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