

Health benefits of traditional games - a systematic review Beneficios para la salud de los juegos tradicionales: una revisión sistemática

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Abstract. Background: Traditional games have been integral to human culture since ancient times. However, with the development of technology and changes in modern lifestyles, the popularity of traditional games has declined significantly. Nonetheless, research on the health benefits of conventional games has shown promising results, and many recent studies have highlighted the importance of maintaining and promoting these activities for human well-being. Study Objectives: This study aimed to conduct a systematic review of the existing literature to investigate the health benefits of traditional games, focusing on physical, mental, and emotional aspects. Materials and Methods: A systematic review was conducted by searching for relevant articles in various databases, including PubMed, Scopus, and Google Scholar. Inclusion and exclusion criteria were set to select suitable studies. Data from the selected studies were extracted and analysed to identify key findings on the health benefits of traditional games. Results: The study findings suggest that conventional games benefit human health. Physically, traditional games help improve physical fitness, coordination and motor skills. On the mental side, these activities can reduce stress, improve concentration, and promote happiness and well-being. Meanwhile, the social aspect of traditional games can strengthen social relationships, build a sense of solidarity, and improve interpersonal communication skills. Conclusion: This systematic review confirms that conventional games have great potential to improve overall health and well-being. Therefore, it is essential to continue promoting and supporting these activities in modern society as part of efforts to improve lifestyle and enhance quality of life. Furthermore, further research is needed to deepen the understanding of the mechanisms behind the benefits of traditional games and to develop more effective interventions to integrate these activities into daily life.

Keywords: Benefits of traditional games, Physical and mental health, Systematisation of the review, Positive effects of traditional activities, Implications for public health

Resumen. Antecedentes: Los juegos tradicionales han formado parte de la cultura humana desde la antigüedad. Sin embargo, con el desarrollo de la tecnología y los cambios en los estilos de vida modernos, la popularidad de los juegos tradicionales ha disminuido considerablemente. No obstante, la investigación sobre los beneficios para la salud de los juegos convencionales ha mostrado resultados prometedores, y muchos estudios recientes han destacado la importancia de mantener y promover estas actividades para el bienestar humano. Objetivos del estudio: Este estudio tuvo como objetivo realizar una revisión sistemática de la literatura existente para investigar los beneficios para la salud de los juegos tradicionales, centrándose en los aspectos físicos, mentales y emocionales. Materiales y métodos: Se realizó una revisión sistemática mediante la búsqueda de artículos relevantes en diversas bases de datos, incluyendo PubMed, Scopus y Google Scholar. Se establecieron criterios de inclusión y exclusión para seleccionar los estudios adecuados. Se extrajeron y analizaron los datos de los estudios seleccionados para identificar los hallazgos clave sobre los beneficios para la salud de los juegos tradicionales. Resultados: Los resultados del estudio sugieren que los juegos tradicionales benefician la salud humana. Desde el punto de vista físico, los juegos tradicionales ayudan a mejorar la forma física, la coordinación y las habilidades motoras. En el aspecto mental, estas actividades pueden reducir el estrés, mejorar la concentración y promover la felicidad y el bienestar.

Mientras tanto, el aspecto social de los juegos tradicionales puede fortalecer las relaciones sociales, crear un sentido de solidaridad y mejorar las habilidades de comunicación interpersonal. Conclusiones: Esta revisión sistemática confirma que los juegos convencionales tienen un gran potencial para mejorar la salud y el bienestar general. Por lo tanto, es esencial seguir promoviendo y apoyando estas actividades en la sociedad moderna como parte de los esfuerzos para mejorar el estilo de vida y aumentar la calidad de vida. Además, es necesario seguir investigando para profundizar en el conocimiento de los mecanismos que subyacen a los beneficios de los juegos tradicionales y desarrollar intervenciones más eficaces para integrar estas actividades en la vida cotidiana.

Palabras clave: Beneficios de los juegos tradicionales, Salud física y mental, Sistematización de la revisión, Efectos positivos de las actividades tradicionales, Implicaciones para la salud pública

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Introduction

Traditional games have been integral to human culture and history for centuries. From simple games like jumping rope to complex team games like traditional football in different parts of the world, traditional games not only provide entertainment but also have the potential to provide health benefits. In this fast-paced, digitally-connected modern era, the importance of traditional games to improve physical and mental health is gaining attention. As an introduction to understanding the health benefits of traditional games, it is necessary to explore the scientific evidence

supporting such claims systematically. More in-depth scientific research on the health benefits of traditional games is essential for understanding our cultural heritage and opening the door to more effective methods of promoting overall public health. As technology advances and modern lifestyles become increasingly less active, understanding how traditional games can affect health is becoming increasingly important. Previous studies have shown that traditional games can significantly positively impact various health aspects, from physical to mental well-being. One of the most apparent aspects of health associated with traditional games is physical health. The physical activities involved in

traditional games, such as running, jumping or playing with a ball, can help improve cardiorespiratory fitness, muscle strength and flexibility. A study by Salvy et al. (2008) showed that children who engaged in traditional physical games tended to have higher levels of physical activity than those who engaged in electronic games or sat in front of screens. This suggests that traditional games can be an effective tool in promoting an active lifestyle among children. In addition to physical health, traditional games can improve mental and emotional health. In the modern context of pressure and stress, traditional games can serve as a tool to reduce anxiety, improve mood, and strengthen social bonds. A study by Fredrickson (2000) showed that enjoyable and meaningful activities, such as playing traditional games with friends or family, can increase positive emotions and reduce stress. However, while these benefits have been observed anecdotally, more systematic and in-depth research is needed to test and confirm these claims scientifically. Through a systematic review approach, this study aims to collate and analyse the existing evidence on the health benefits of traditional games. As such, this study will not only help deepen our understanding of the relationship between traditional games and health. Still, it can provide a solid foundation for developing future health interventions based on traditional games.

Research methodology

Research Design

This research design is a systematic review that investigates traditional games' health benefits. This study was chosen because systematisation provides a solid framework for collecting and evaluating existing scientific evidence. Systematisation also makes it possible to identify common trends, weaknesses, and gaps in the existing literature. The choice of this design is based on the need to comprehensively collate the existing empirical evidence on the health benefits of traditional games. In a systematic review, we will collect data from relevant studies, evaluate their quality, and then synthesise the findings into robust and reliable conclusions. Systematising this research is essential as it provides a clear and structured framework for analysing the existing literature. By doing so, the authors can ensure that this research produces accurate and reliable information on the health benefits of traditional games. Through this research design, we hope to provide a better understanding of the importance of maintaining and promoting conventional games in society to improve overall well-being and health.

Inclusion and Exclusion Criteria

Criteria Inclusions

Studies to be included in this review should cover a diverse population, including participants of various age ranges, from children to older people and representing multiple ethnic and cultural backgrounds. Accepted studies include clinical, observational and interventional designs with adequate data completeness and verifiable methods. In

addition, studies must evaluate the effects of traditional games directly on physical, mental or social health and include different types of traditional games, such as sports games, skill games and recreational games.

Exclusion Criteria

Studies whose focus is irrelevant to the research topic, such as those that do not consider traditional games or do not evaluate their impact on health, will be excluded from the review. In addition, materials that are not available in a language that the authors or research team can understand, as well as those that are only available in formats that are difficult to access or do not conform to academic standards, will also be ignored. Finally, studies with significant methodological flaws, such as using unrepresentative samples or unreliable data collection methods, will also be excluded.

Data Collection

Data collection is a crucial stage in this systematic research process. Firstly, a comprehensive literature search was conducted using relevant databases such as PubMed, Google Scholar, and Scopus. Keywords corresponding to the research topic were used to ensure the inclusion of relevant studies. Next, the studies identified through the initial search were evaluated according to the predefined inclusion criteria. Evaluation of the inclusion criteria involved assessing the title, abstract and full text to ensure relevance and methodological quality. Studies that met the inclusion criteria were then included in the review. Afterwards, data from the selected studies were extracted using a pre-prepared data extraction form. The extracted data included information on study design, sample characteristics, types of traditional games evaluated, and key outcomes related to health benefits. Data collection was conducted carefully and thoroughly to ensure that the information obtained was high quality and reliable. This data collection process enabled researchers to compile a comprehensive dataset for further analysis. The data collection stage was an essential cornerstone for the entire study.

Analisis Data

In analysing the data for this study, I adopted a systematic approach with structured steps. First, the authors collated data from the selected studies based on the established inclusion criteria. The authors extracted relevant data, including information on the health benefits of the traditional games studied. Next, I evaluated the methodological quality of each study included in this review. This enabled the authors to obtain a comprehensive picture of the reliability and validity of the results. Afterwards, the authors conducted thematic analyses to identify common patterns in the findings of the investigated studies.

The author classified the health benefits of traditional games into several main categories, such as physical, mental, emotional and social benefits. Then, the author collated these results into a systematic summary, highlighting key findings and their relationship to overall health. In the final

data analysis stage, the author considered variations in findings between different studies and investigated factors that may have influenced these results, such as the type of traditional games studied, the population studied, and the research methods used. With this thorough and systematic approach, the authors could present informative and reliable results on the health benefits of traditional games.

Research Steps

This study followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology to review traditional games' health benefits systematically. The first stage in this study was identifying relevant sources of information. The author found several studies that met the predetermined inclusion criteria through a careful literature search in various databases such as PubMed, Google Scholar, and Scopus. Next, the authors conducted study selection based on the inclusion and exclusion criteria, which involved reviewing each study's title, abstract and full text. Once relevant studies were identified, a quality evaluation step was performed using appropriate evaluation tools, such as the Newcastle-Ottawa Scale. Relevant data were then systematically extracted from each study, including information on study design, population studied, traditional game interventions, outcomes measured, and other key findings. The extracted data were then systematically analysed, including incorporating findings from multiple studies using meta-analysis methods where possible. The results of this analysis were finally summarised in a systematic report according to PRISMA guidelines, which included a description of the methodology, key findings, interpretation of results, and implications for clinical practice and future research. Thus, this study is expected to provide a deep insight into the health benefits of traditional games with a systematic and reliable approach.

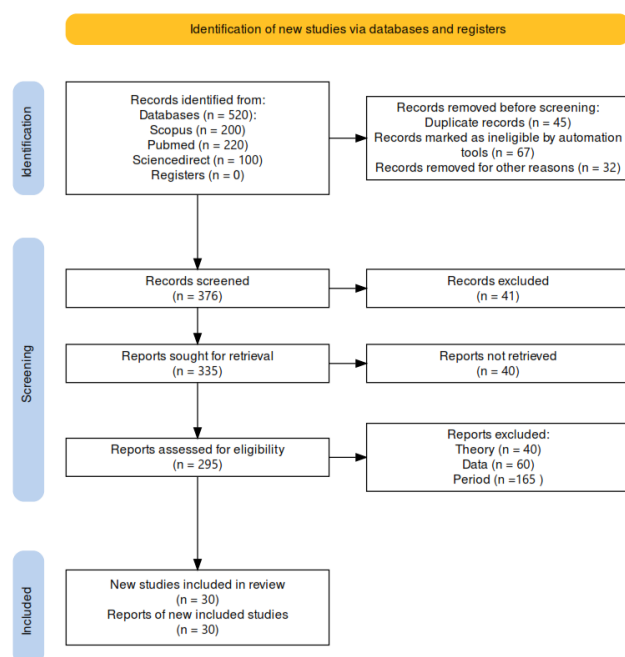


Figure 1. Article selection with PRISMA method

Literature review

Definition of Traditional Games

Traditional Games are a concept that refers to recreational activities that have been an integral part of a society's culture for generations. Traditional games are often passed down from generation to generation and reflect the values, norms and customs rooted in the culture of a particular society. In the literature, the notion of traditional games has been defined with various perspectives that reflect the complexity and diversity of the activity. Traditional societies play traditional games, where the activity is performed orally for generations. This definitional approach emphasises the hereditary and oral aspects of the traditional game experience, suggesting a close relationship between the game and the cultural heritage and oral traditions inherent in the community.

In addition, according to (Rodríguez, Olaya-Cuartero, & Martínez-Sanz, 2022; Wardani & Nugrahanta, 2021), traditional games are activities performed by Malay children that take weight towards the development aspects of the soul, mind and body. This definition highlights traditional games' educational and character-building aspects, which contribute positively to children's development in various dimensions of life.

From an anthropological perspective, (Muthmainah, 2022) investigated the role of games in traditional ceremonies across various cultures. She describes play as part of symbolic actions that communities engage in in an attempt to control nature or gain good fortune. This perspective highlights the role of games in social and spiritual contexts, where games are not just entertainment but have deeper functions in people's lives. Overall, the definition of traditional games covers diverse aspects, including cultural heritage, education, and socio-spiritual functions. This definition reflects the complexity and value of traditional games as an essential part of human life and culture. By understanding the definition, we can appreciate the importance of preserving and promoting traditional games as a valuable cultural heritage and a source of positive societal values.

Characteristics of Traditional Games

The characteristics of traditional games mark a cultural heritage that has crossed generations and reflects the values of the society in which the games originated. First of all, traditional games are straightforward regarding rules and equipment required. They often utilise natural materials available in the neighbourhood, such as wood, stone, or other organic materials, which allows these games to be accessible to a large section of society, regardless of their social or economic status. Examples are games like congklak, gasing, or jump rope, which use simple materials in most local neighbourhoods. In addition, traditional games are often passed down orally from generation to generation. This means that game rules and strategies are often learnt from peers or family members rather than books or digital media. Through this process, traditional games become

entertainment and a means to strengthen social bonds and develop interpersonal communication skills. Games such as mud football among village children may be passed down orally from generation to generation, strengthening relationships between community members.

Furthermore, traditional games often require a high degree of physical involvement from the players. They often involve body movements, such as running, jumping or climbing, which can provide physical health benefits to players. In this way, traditional games are a means of entertainment and a tool to promote physical fitness and health, especially in an era where sedentary lifestyles are increasingly common. Lastly, traditional games are often closely linked to the cultural identity and social values of the society in which they developed. They often reflect a particular group or community's beliefs, traditions and folklore. Therefore, traditional games are not only a source of entertainment or physical exercise but also a means of maintaining and strengthening cultural identity and the positive values contained in them. Thus, the characteristics of traditional games, which include being simple in rules, being passed down orally, requiring physical engagement, and being closely linked to cultural identity, not only mark the uniqueness of the games but also provide various benefits, both socially, physically and culturally, to the people who practice them.

Variety of Traditional Games

Traditional Games encompass many games that have existed in diverse cultures and societies throughout history. These games are an integral part of a community's social and cultural life, often passed down from generation to generation. They reflect the diversity of human creativity and the richness of a region's culture and are essential tools for social interaction, education and entertainment. One example of a traditional game is "Sepak Takraw", which originated in Southeast Asia. The game is played using a bamboo ball called "takraw," the players must avoid touching the ground and dribbling it towards the opponent using body parts, such as the feet, head, or chest, to win-aiming to win points. Sepak Takraw is not just a physical game but also forms values such as cooperation, motor skills, and sportsmanship in its participants. In addition, there are various traditional games in Africa, such as "Bao", a board game popular in the East and Central African region. Bao uses seeds or small stones as coins in holes arranged on a game board.

The game is not only entertaining but is also often used as a means to improve players' cognitive skills, strategy and basic maths calculations. Many traditional games also have substantial historical and symbolic value. For example, "Pencak Silat", a traditional martial art from Indonesia, is not just a physical exercise but also contains values of courage, self-control, and cultural heritage passed down from ancestors. More than just entertainment, traditional games have great potential to support children's learning and development. Numerous studies have shown that

participation in traditional games can improve children's social, cognitive, motor and emotional skills. Preserving and promoting traditional games is therefore essential in the context of education and child development. In the context of globalisation and modernisation, many traditional games face the threat of extinction due to factors such as lifestyle changes, technology and urbanisation. However, efforts to reintroduce traditional games into the community through educational programmes and local community initiatives can help sustain these traditional games as part of a valuable cultural heritage. As Marshall McLuhan said, "I believe that games constitute the most attractive and effective method of teaching anything."

Function and Meaning of Traditional Games

The Function and Meaning of Traditional Games have an essential role in society's cultural, social and psychological context. Traditional games are not just recreational or entertainment activities but also play a significant role in shaping identity and strengthening relationships between individuals in a community. Below, we will discuss further the functions and meanings of traditional games that go beyond mere entertainment. Traditional games have a vital social function in facilitating interactions between community members. In this context, traditional games are not just an individual activity but also a medium to build and strengthen social relations between individuals in a group or community.

As stated by Pausanias, an ancient Greek historian, Games are one of the most effective ways to form friendships and build strong social relationships among humans. This confirms that traditional games are about physical activity and building close social bonds among participants. In addition, traditional games also function as a tool to strengthen cultural values and traditions in a society. Through traditional games, the younger generation can learn about the values held dear by their ancestors and understand their history and cultural heritage in an interactive and fun way. As Nelson Mandela said, you must play their games to understand a nation. This shows that traditional games are essential in maintaining and passing cultural values from one generation to the next. In addition to social and cultural functions, traditional games also have significant psychological meanings for the individuals involved.

Games can be a channel for expressing one's emotions, creativity and intelligence. According to psychologist Erik Erikson, games and recreational activities help individuals develop self-identity and strengthen their self-confidence. This suggests that traditional games can positively contribute to an individual's psychological development, including social skills, problem-solving, and creativity. In a broader context, understanding the function and meaning of traditional games is relevant for recreational activities and has important implications in various fields, including education, health, and community building. Therefore, efforts to promote and preserve traditional games will provide direct benefits to the individuals involved and the whole

community in maintaining their cultural identity and strengthening social and psychological relationships within it.

Heritage and Preservation

Preserving traditional games is an integral part of efforts to maintain the cultural heritage of a society. Traditional games are a manifestation of cultural identity, history and values that have been passed down from generation to generation. This cultural heritage includes aspects of art and belief and practices related to entertainment and social interaction. Preserving traditional games is becoming increasingly important in this modern era, where globalisation and technology often shift people's attention away from their local culture. Traditional games are entertainment and contain social, moral and health values. For example, traditional games often involve interactions between community members of different ages, helping to strengthen social networks and solidarity among them. Traditional games play an essential role in promoting social cohesion and shaping cultural identity, as through these games, participants, especially the younger generation, can instil values such as cooperation, honesty and patience.

The preservation of traditional games also has a positive impact on public health. Many traditional games involve physical activities that can help maintain a healthy body and prevent diseases related to unhealthy lifestyles. For example, games such as jump rope, traditional football or sepak takraw require active body movements, which can improve the physical fitness of participants. A study published in the journal *Revue D Épidémiologie Et De Santé Publique* (Hernandez et al., 2018; Lima et al., 2020) concluded that traditional games can be a fun and effective alternative to increase physical activity levels in children and adolescents, thereby helping to reduce the risk of obesity and related diseases. However, a significant challenge in preserving traditional games is competition with modern lifestyles and ongoing social changes. Modern technologies, such as video games and social media, often capture the younger generation's interest, causing a decline in interest in traditional games. To overcome these challenges, concerted efforts from various parties, including the government, educational institutions and civil society, are needed to promote and preserve traditional games.

Implementing educational programmes and community activities that introduce traditional games to the younger generation can be a practical first step in strengthening awareness of the importance of this cultural heritage. Thus, preserving traditional games is about maintaining cultural heritage and ensuring the community's health and social sustainability. By understanding the values contained in traditional games and applying them in their daily lives, communities can strengthen their cultural bonds while maintaining physical and mental well-being.

History of Traditional Games

Traditional games have been an integral part of human life since prehistoric times, and their origins can be traced

back thousands of years. Since ancient times, humans have used games to entertain themselves, hone their skills and strengthen social bonds. The history of traditional games reflects the cultural diversity and uniqueness of societies worldwide. For example, in Japan, traditional games such as Kendama have existed since the 17th century and are still part of popular culture today. The same goes for other traditional games in different parts of the world, such as congklak in Indonesia, sepak takraw in Southeast Asia, and badminton in China. Traditional games often involve aspects of the culture and traditions of the communities they originate from. The game's rules, the type of equipment used, and the game's purpose can vary significantly between cultures. For example, traditional Maasai games in East Africa involve high jumps used in tribal initiation ceremonies, while in India, traditional games like Kabaddi have strong roots in religious and cultural traditions.

Over time, traditional games have evolved and changed according to the needs and development of society.

Nonetheless, the values and traditions embodied in the games remain intact. For example, traditional games such as bola baling, a traditional game of the Orang Asli tribe in Malaysia, have undergone adjustments in rules and equipment but still retain strong cultural values and traditions. Traditional games provide players with entertainment, facilitating social interaction and strengthening community ties. In traditional societies, games are often events that bring together community members from different walks of life and ages. Through games, the younger generation can learn from the older generation, while adults can strengthen their social relationships with each other. However, with the passage of time and changing lifestyles, many traditional games face threats to their survival. Urbanisation, modern technology, and globalisation have caused many young people to turn to modern games that are more accessible and more popular. This has led to a decline in interest and knowledge of traditional games among the younger generation, which may threaten the games' survival and cultural heritage. Many communities and organisations have undertaken conservation and revitalisation efforts to maintain and promote traditional games. Educational programmes and cultural activities have been introduced to introduce traditional games to the younger generation and raise awareness of the importance of such cultural heritage.

Initiatives such as Traditional Games Day in various countries have become platforms to promote traditional games and rebuild people's interest in them. In a modern era dominated by technology, traditional games still hold significant value in maintaining a society's cultural identity. They are a means of entertainment and a symbol of pride and heritage that must be maintained and preserved for future generations. By understanding the history and values of traditional games, we can better understand their role in shaping and enriching human life. As expressed by (Ihsan, Nasrulloh, Nugroho, & Yuniana, 2024; Kadir et al., 2021), Traditional games are part of our cultural heritage that must be maintained and passed on to future generations as part of

our identity.

Health and Physical Activity

The Effect of Traditional Games on Physical Health

Traditional games have long been an integral part of human culture in various parts of the world. One important aspect of traditional games is their effect on physical health. Along with technological development and modern lifestyle changes, traditional games are often neglected in daily activities. However, scientific research shows that traditional games have a significant positive impact on the physical health of individuals. First, traditional games encourage participants to engage in diverse physical activities. Activities such as running, jumping, kicking, and pulling allow the entire body to move, engage various muscle groups, and improve flexibility. In traditional football or hide-and-seek games, players must move dynamically to achieve a specific goal, thus improving their balance, coordination and physical strength. In addition, traditional games often require intense social interaction between players, which in turn increases the level of physical activity. For example, in games such as kite or congklak, players not only engage in coordinated physical movements but also actively interact with their peers, both verbally and non-verbally. This kind of social interaction can increase motivation to participate in physical activity and create a fun and fulfilling experience (Brustio et al., 2018).

Furthermore, traditional games allow individuals to engage in physical activity without feeling the pressure or boredom that often occurs during exercise. Compared to monotonous physical exercise routines, traditional games offer greater variety and challenge, which makes them more exciting and entertaining for participants. As a result, (Eskiler & Küçükibiş, 2019; Ihsan, Nasrulloh, Nugroho, & Kozina, 2024) In the context of public health, promoting traditional games as part of a healthy lifestyle can significantly impact. By reviving interest and appreciation for traditional games, communities can enjoy ongoing physical health benefits while maintaining and preserving their cultural heritage. This shows that traditional games are not just entertainment or leisure activities but also a potential source of improving people's physical health and overall well-being.

Comparison between Traditional Games and Modern Physical Activities

A comparison between traditional games and modern physical activity is interesting as both are forms of physical activity with potential health benefits. Traditional games often offer a wider variety than modern physical activities in terms of intensity and duration. While many modern physical activities are designed to improve cardiorespiratory fitness and muscle strength, traditional games often promote a combination of physical activities, including walking, running, jumping, and performing various other body movements. For example, in traditional games such as "tug of war" or "jumping rope", there are elements that require

strength, endurance, and physical coordination that are different from modern sports such as jogging or cycling.

The study conducted by (Irawan, Sutaryono, Permana, Chuang, & Yuwono, 2021) concluded that traditional games can provide a wider variety of movements than modern physical activities, which may provide additional benefits in forming physical fitness and body balance. However, it is essential to recognise that modern physical activities have certain advantages, especially in measuring and managing intensity and duration more precisely. For example, using a heart monitoring device, one can track their heart rate during exercise and adjust the intensity according to desired health targets.

In addition, factors such as accessibility and environment also play an essential role in determining the level of participation in traditional games or modern physical activities. Modern physical activities such as running or cycling often require access to sufficient facilities or open spaces. At the same time, traditional games may be more accessible and can be played in local neighbourhoods or at home without needing specialised equipment. This is in line with the findings revealed in the study by (Badawi, Yahya, Yusuf, & Miftah, 2023), which highlighted the importance of a supportive environment in increasing participation in physical activity. Thus, while traditional games and modern physical activities have advantages and disadvantages, it is essential to recognise that both activities can be integral to a healthy lifestyle. As a result, strategies incorporating both can be a practical approach to promoting physical health and overall community well-being.

The Effect of Traditional Games on the Health of Children and Adolescents

Traditional games have become integral to culture and daily life in various societies worldwide. In the context of children and adolescent health, traditional games have received significant attention due to their potential to provide diverse physical benefits. Scientific studies show that participation in traditional games positively influences the health of children and adolescents in several essential aspects. Physically, traditional games often involve quite intense physical activities, such as running, jumping and outdoor play. These physical activities provide an essential stimulus for bone and muscle building, essential in children's and adolescents' physical development. In a study published in the journal *Pediatric Research* by (Colaïanni et al., 2019), the importance of physical activity in children's developmental period stated that adequate physical activity is essential for bone and muscle health and preventing obesity in children. Therefore, traditional games can be an effective alternative to fulfilling children's and adolescents' daily physical activity needs.

Participating in traditional games can also help reduce the risk of obesity and other related diseases. With lifestyles increasingly inclined towards less active activities and increased exposure to technology, many children and adolescents face an increased risk of obesity. However, through

traditional games, they engage in fun and beneficial physical activities, which can help control weight and improve overall health. A study by the Centers for Disease Control and Prevention (CDC) shows that regular physical activity in children and adolescents can reduce the risk of obesity in adulthood. Not only do traditional games provide physical benefits, but they also play a role in developing children's and adolescents' social and mental skills. In a traditional play environment, they learn to interact with fellow children, developing communication, cooperation and leadership skills. These are important in building healthy social relationships and strengthening their self-confidence.

A study by (Guilherme, Santos, Fiorillo, & Rinaldi, 2020) showed that traditional games allow children to learn to overcome challenges, share, and cooperate, all of which are essential skills that can help them succeed. Thus, participation in traditional games significantly impacts children and young people's health, both physically and psychologically. Through beneficial physical activity and the development of positive social skills, traditional games have the potential to be a valuable resource in promoting the health and well-being of young people.

Scientific Support for the Physical Activity Benefits of Traditional Games

Scientific research has consistently shown that traditional games significantly contribute to individuals' physical health, especially in children and adolescents. The physical activities involved in traditional games positively affect bone, muscle, and cardiorespiratory health. A study by (Sulistyaningtyas & Fauziah, 2019) stated that children who regularly participated in traditional games had higher bone density than those who did not actively participate. This suggests that traditional games provide physical stimulation important for bone development and health in the early stages of life. In addition, the physical activities involved in traditional games also contribute to muscle development and physical strength. Research by (Abdullah, Musa, Kosni, & Maliki, 2017) found that children who regularly engage in traditional games have higher levels of physical fitness, reflected in their ability to undergo physical activities of higher intensity and longer. However, the health benefits of traditional games are not limited to physical aspects alone; they also affect mental and emotional health. Traditional games often involve social interaction and collaboration between players, which can strengthen social bonds and psychological well-being.

Studies (Festiawan, 2020) show that traditional games can help reduce stress and anxiety levels in children by providing a platform for positive social interaction and creative problem-solving. This confirms that traditional games are essential for physical, mental, and emotional health. In addition, traditional games also provide opportunities for children and young people to learn values such as cooperation, honesty, and responsibility, all of which are essential aspects of holistic health development. Participation in traditional games can help develop social skills such as

communication, negotiation, and leadership, all of which contribute to overall health and well-being.

In this context, scientific evidence consistently supports the positive role of traditional games in improving individuals' physical, mental, and social health. Therefore, promoting participation in traditional games as part of a holistic and sustainable public health strategy is essential.

Factors Affecting the Level of Participation in Traditional Games

Factors influencing the level of participation in traditional games are essential in influencing their sustainability and relevance in modern society. Cultural and environmental factors are among the main factors. Culture is vital in determining people's preferences and habits regarding traditional games. For example, in some societies, traditional games are considered a cultural heritage that should be maintained and preserved. Hence, participation in such games can be high.

Conversely, in others where a culture of modernisation has taken hold, traditional games may be considered outdated or less appealing to the younger generation, resulting in decreased participation. According to research conducted by (Burgués, Alonso, Etxebeste, Lagardera, & March, 2014), Culture and traditional values can play an essential role in influencing game preferences and participation in society. This shows how important it is to understand the cultural context in analysing the level of participation in traditional games. In addition to cultural factors, environmental factors also have a significant impact. The physical environment, such as the availability of open spaces or facilities to play, can affect accessibility and comfort in participating in traditional games. According to research conducted by (Fitri, Nur, & Putri, 2020), child-friendly and family-friendly facilities, such as well-maintained playgrounds, can increase children's participation in traditional games. In addition, social and environmental factors also play an essential role. For example, support from family, peers or the local community can encourage participation in traditional games. However, participation may decrease if the social environment tends to favour modern activities or discourages traditional games.

In addition to cultural and environmental factors, technology and modern lifestyles influence participation in traditional games. The development of technology, such as smartphones, video games and social media, has changed people's leisure time patterns and entertainment preferences, which in turn can reduce interest in traditional games. Exposure to modern technology, such as video games and electronic gadgets, may reduce the time spent participating in traditional outdoor games. In addition, busy lifestyles polarised by modern activities such as organised sports or digital entertainment may also reduce time and interest in participating in traditional games. These factors interact and influence each other in determining the level of participation in traditional games. Understanding and accommodating these factors can help design strategies to

increase participation and promote the sustainability of traditional games in modern societies.

Mental and Emotional Health

Enhanced Emotional Wellbeing

Improved emotional well-being is one of the significant benefits of playing traditional games. Emotional well-being refers to an individual's subjective experience of happiness, life satisfaction, and the ability to manage negative emotions effectively. Playing traditional games allows individuals to experience happiness and joy derived from positive social interactions and achievements. This activity allows people to forget about everyday worries and enjoy a fun moment with friends or family. A study published in *Emotion Journal* showed that games and sports provide opportunities for positive experiences, friendships, and success that contribute to improved emotional well-being (Nelson, Layous, Cole, & Lyubomirsky, 2016). By engaging in traditional games, individuals can find satisfaction in achieving specific goals, such as winning a race or achieving a high score.

This can increase self-confidence and personal satisfaction, improving their emotional well-being. In addition, traditional games also allow individuals to feel a sense of community and connection with others, which is an essential factor in improving emotional well-being. While playing traditional games, individuals share pleasant moments with friends or family, creating precious memories and strengthening social relationships. A study published in the *International Journal of Environmental Research and Public Health* found that positive social interactions and social support from friends and family contribute significantly to individuals' emotional well-being (Achab et al., 2022).

Thus, playing traditional games provides an opportunity to have fun and strengthens social bonds that can support one's emotional well-being. In addition, playing traditional games can also be a means to manage stress and relieve negative emotions. Physical activity in traditional games can help reduce stress and anxiety and improve overall mood. Regular exercise and physical activity can help reduce symptoms of depression and improve overall emotional well-being. Thus, playing traditional games provides an opportunity to have fun and can also be an effective tool to improve emotional well-being and manage negative emotions. Overall, improved emotional well-being is one of the significant benefits of playing traditional games. These activities provide opportunities for individuals to experience happiness, joy, and life satisfaction through positive social interactions, personal achievement, and management of negative emotions. Individuals can strengthen social bonds, manage stress, and improve their overall emotional well-being by engaging in traditional games.

Stress Reduction

Stress reduction is one of the essential benefits that can be gained through participation in traditional games. Stress is a physiological and psychological response to excessive pressure or demands and can significantly negatively impact

one's mental and physical well-being. In this context, traditional games offer an effective escape from daily stresses and allow individuals to release accumulated tension. The physical activity involved in traditional games helps release stored energy, increases blood flow, and improves overall mood. According to research conducted by (Witte, Spruit, Hooren, Moonen, & Stams, 2019), musical and city, a form of traditional games, has been shown to reduce stress levels significantly.

It was found that music can stimulate the parasympathetic nervous system, which facilitates the body's response to relaxation and recovery after stress. Thus, traditional musical games, such as playing traditional musical instruments or singing in a group, can effectively cope with stress and improve emotional well-being. In addition, participation in traditional games can also provide opportunities to socialise and interact with others, which is also an essential factor in reducing stress. According to research conducted by (Fekete, Maidhof, Specker, Nater, & Leder, 2022), positive social relationships can reduce stress levels and increase resilience to psychological distress.

In the context of traditional games, these social interactions often occur naturally, either in the form of team collaboration in group games or through casual conversations during the activity. In addition, traditional games can also shift the focus of one's attention from stressful thoughts to an engaging and fun activity. This can help reduce anxiety associated with everyday problems and provide an opportunity to experience joy and fulfilment in the moment. As such, traditional games provide a pleasant diversion from existing stresses and valuable time for relaxation and mental recovery. Overall, stress reduction is one of the significant benefits of participating in traditional games. Through physical activity, social interaction, and positive distraction, traditional games can effectively cope with daily stresses and improve overall emotional well-being. As a result, integrating traditional games into daily life can help individuals achieve a better balance between body and mind and improve their overall quality of life..

Improved Social Skills

The enhancement of social skills through traditional play is a phenomenon that has long been observed and documented in scientific literature. Playing together with others allows individuals to interact, collaborate and build healthy interpersonal relationships. Participating in traditional games forces individuals to communicate, negotiate and cooperate with fellow players, which helps develop their social skills. Games such as "kasti" or "congklak" often involve direct interaction between players, where they must communicate to plan strategies and make decisions together. A study by (Tan, Nonis, & Chan, 2020), found that children who regularly engaged in traditional games improved their social skills, including sharing, cooperating, and understanding others' feelings.

In addition, traditional games also provide opportunities for individuals to learn to manage conflict and resolve

problems effectively. In situations where the game's rules must be followed, and joint decisions must be made, players must be able to negotiate and resolve conflicts without adverse physical or emotional confrontation. This allows them to develop problem-solving, decision-making, and empathy skills, essential aspects of healthy social skills. As evidence, a study by (Briet, Le Maner-Idrissi, Seveno, Le Marec, & Le Sourn-Bissaoui, 2023), found that adolescents who regularly engaged in traditional games had lower levels of conflict with their peers and were better able to handle conflict constructively.

Furthermore, traditional games also facilitate solid and supportive social relationships. When playing together, individuals can bond with fellow players, be it peers, family members or even strangers. The interactions established during play can lay the foundation for deep and supportive relationships beyond the game environment. Adults who regularly engage in traditional games tend to have more robust social networks and gain more excellent social support from their friends and family.

Solid social skills are increasingly emphasised in an increasingly digitally connected society. Traditional games provide a unique platform where individuals can learn, practice and strengthen their social skills in an interactive and meaningful way. Therefore, paying attention to the critical role of traditional games in enhancing social skills can provide a better understanding of how these activities can provide sustainable benefits to individuals' social development and well-being.

Improved Concentration and Focus

Improved concentration and focus are among the essential benefits of playing traditional games, which have been empirically proven. Playing traditional games often requires a high concentration level as it requires understanding the rules, planning strategies, and monitoring opponents' movements or other game elements. Through the experience of play, individuals are encouraged to focus entirely on the activity at hand, which directly aids in the development of cognitive abilities related to concentration and focus. Games such as chess or checkers require careful thought and in-depth analysis of the steps to be taken, forcing players to focus on the strategy being executed and predicting the opponent's moves. A study published in the Iranian Evolutionary Educational Psychology Journal showed that playing chess regularly can improve the concentration and focus of players, as the activity involves problem-solving and long-term planning that requires sustained attention (Atashafrouz, 2019).

In addition, traditional games can also help hone impulse control skills, which is an essential aspect of concentration and focus. When playing, one may face situations where they have to refrain from making rash or impulsive decisions. In games like checkers or chess, players must think about the consequences of each step before making it, teaching them to control their impulses and pay attention to the overall game picture. This significantly impacts

improving concentration-related cognitive capacities as individuals learn to prioritise relevant information and exclude unnecessary distractions.

Furthermore, traditional games can also help train memory and split focus. During play, players must simultaneously monitor several aspects of the game, such as their opponent's position, game conditions and strategies. This requires them to shift their attention quickly and efficiently between different aspects, improving their split-focus ability. A study conducted by (Moen, Olsen, & Hrozanova, 2020) found that playing traditional games involving aspects of memory and divided focus can help improve cognitive abilities related to memory and attention.

Overall, playing traditional games provides entertainment and a valuable opportunity to improve concentration and focus. Through play experiences, individuals can develop cognitive abilities related to impulse control, memory, and concentration that can benefit various aspects of life, including education, work, and daily activities. Therefore, the mainstreaming of traditional games in culture and society can be an effective means of improving individuals' overall cognitive well-being.

Self-confidence Enhancement

Increased self-confidence is one of the significant benefits of traditional game participation. Self-confidence is an individual's belief in his or her ability to achieve goals, overcome challenges, and face demanding situations. In the context of traditional games, active participation and achievement in various games can provide a positive boost to one's self-confidence. When a person completes a task or wins a game, this reinforces his belief in his abilities and skills.

According to research conducted by (Polatcan & Şahin, 2019), Self-confidence is an individual's belief in his or her ability to organise and execute the steps necessary to achieve specific goals in a particular situation. In traditional games, these aspects are reflected when a person experiences success in the face of physical or mental challenges associated with the game. For example, when a child manages to jump rope smoothly or win a traditional game such as songkok or engraving, this can increase his confidence in his ability to achieve goals and overcome obstacles.

In addition, traditional games often involve social interactions with others, both peers and family members. In these situations, success in the game brings personal satisfaction and recognition from others. Social support and appreciation from friends or family can strengthen one's self-confidence. According to (Boéchat-Heer, Impedovo, & Arcidiacono, 2015), self-confidence can be influenced by personal experiences and social feedback received by individuals. In this case, traditional games are a means to develop individual skills and gain recognition and support from the surrounding environment.

In addition, traditional games can also provide opportunities for individuals to face failure and learn from the experience. In games, failure or defeat is often part of the learning process and increases motivation to try again.

Thus, despite experiencing failure in a single game, individuals better understand their strengths and weaknesses, strengthening their confidence to try again.

Thus, participation in traditional games can significantly contribute to the development of individuals' self-confidence. Through achievement, social interaction, and learning from experience, traditional games help individuals build confidence in their abilities and skills. This not only positively impacts the psychological well-being of individuals but can also help them face challenges and achieve success in various aspects of life.

Creativity Development

The development of creativity is one of the significant benefits that can be gained through participation in traditional games. Creativity is the ability to generate new ideas or concepts that are useful or relevant, as well as having the ability to solve problems in innovative and original ways. Through traditional games, individuals engage in activities stimulating their imagination and creativity. For example, in traditional games such as folk games or folk play, participants often have to think creatively to develop effective strategies to win the game. This can involve the use of imagination, improvisation and creative problem-solving.

Research conducted by Landry and Bahena-Espinoza (2016) concluded that traditional games have the potential to enhance children's creativity through a thorough sensory and motor stimulus. Through play experiences involving body movement, object manipulation, and interaction with the surrounding environment, children can develop divergent thinking skills, an essential aspect of creativity. In addition, research conducted by (Muthmainah, 2022) shows that activities that allow for exploration and self-expression, such as playing traditional games, can facilitate creativity by allowing individuals to generate new ideas and innovative solutions.

In addition, traditional games often involve elements of imagination and creation. In traditional games such as wayang kulit in Indonesia, participants follow the game's rules and have the freedom to develop unique stories, characters and dialogues. This allows players to express their creativity through performance art and original narratives. Research by (Gultom et al., 2022) shows that participation in activities that allow creative expression, such as arts and games, can stimulate various aspects of creativity, including associative thinking, flexibility of thinking, and originality.

In addition to providing a direct stimulus for individual creativity, traditional games can also provide a supportive environment for the development of creativity. In traditional games played in groups, such as traditional ceremonies or folk festivals, individuals can learn from shared experiences and inspire each other. The social interactions that occur during traditional games can also enhance creativity through the exchange of ideas, collaboration and social support.

Thus, traditional games have significant potential to enhance individual creativity through sensory and motor

stimulation, imaginative exploration, creative expression, and supportive social interactions. Through active participation in traditional games, individuals can develop divergent thinking, improvisation, and creative problem-solving skills, all essential aspects of creativity.

Positive Experiences and Memories

The positive experiences and memories generated from playing traditional games significantly impact one's mental and emotional health. When people engage in traditional games, they often feel a sense of joy, togetherness and deep satisfaction. This happens because conventional games are usually moments of sharing with those closest to them, such as family, friends or community members. According to research (Lin, 2015), such positive social interactions can improve one's emotional well-being by providing social support, relieving stress, and strengthening solid social bonds. In addition, the positive experiences that result from playing traditional games often bring memorable memories to one's mind. As suggested by (Hooper, Hustedt, Slicker, Hallam, & Gaviria-Loaiza, 2023), memories associated with positive experiences can provide an ongoing source of happiness and become the foundation for one's identity and self-understanding. In the context of traditional games, memories such as moments of victory celebrated together, failure overcome together, or simply carefree togetherness can all provide a strong foundation for one's mental and emotional health.

It is important to note that positive experiences and memories associated with traditional games can also play an essential role in strengthening interpersonal relationships and improving one's overall quality of life. Positive experiences, such as the happiness and satisfaction felt while playing traditional games, can strengthen social bonds between individuals and improve overall life satisfaction. This is in line with social happiness theory, which emphasises the importance of social relationships in improving individual well-being. Thus, traditional games provide entertainment and fun and are a powerful means to build and strengthen sustainable interpersonal relationships.

Furthermore, the positive experiences and memories associated with traditional games can positively affect coping with stress and reduce the risk of mental disorders. Recalling positive memories can be effective in dealing with stressful situations and reducing anxiety levels. Thus, traditional games provide momentary entertainment and are a long-term investment in one's mental and emotional health through the formation of positive and valuable memories. Therefore, individuals and society must appreciate the value of the positive experiences and memories generated from playing traditional games, which can provide lasting benefits to their overall well-being.

Prevention of Mental Disorders

Prevention of mental disorders is one of the essential benefits of playing traditional games. Regular activity in traditional games can help individuals maintain their mental

health and prevent the onset of cognitive disorders such as depression or anxiety. Numerous studies have shown that participation in physical activities and social interactions that occur during traditional gameplay can protect against mental disorders.

The physical activity involved in playing traditional games is beneficial for mental health. Exercise and physical activity can reduce the risk of depression by increasing brain levels of the neurotransmitters serotonin and dopamine, which play a role in mood regulation and feelings of pleasure. Playing traditional games often involves various physical movements, from walking, running, and jumping to complex movements involving coordination and agility. These physical activities improve physical health and help maintain the balance of brain chemistry, which can affect mental health.

In addition, the social interactions that occur while playing traditional games also provide significant benefits for mental health. Social interaction is essential to a person's mental and emotional health. Playing traditional games is often done in groups or with friends, which allows individuals to interact, share experiences, and strengthen their social relationships. Strong social support can reduce the risk of mental disorders, such as depression and anxiety, and improve overall psychological well-being. Through playing traditional games, individuals can build and maintain positive social relationships, which can protect against mental disorders.

Thus, playing traditional games not only provides fun and entertainment but also significantly impacts one's mental health. Physical activity and social interactions while playing traditional games can help individuals maintain a balanced brain chemistry and strengthen their social support, which is essential to preventing mental disorders. Therefore, promoting participation in traditional games can be one of the effective strategies in the effort to avoid cognitive disorders and improve people's overall mental well-being.

Previous Studies on the Health Benefits of Traditional Games

Playing traditional games has long been recognised as having great potential in holistically improving health. Past studies have consistently highlighted traditional games' diverse physical, mental and social benefits. One of the most striking benefits is enhanced physical fitness. Research (Zarei & Ramkissoon, 2020) shows that conventional games such as beach volleyball or sepak takraw require intensive movements that help improve cardiovascular and overall body fitness. In addition, traditional games can strengthen muscles and improve flexibility, as shown in research by (Febrianto, Sulaiman, & Hidayah, 2022), who found that conventional games, such as traditional football, can increase muscle strength and flexibility in participants.

In addition to the physical benefits, playing traditional games has also been shown to impact mental and emotional health positively. Conventional games can help reduce

stress levels and improve overall psychological well-being. The physical activity involved in playing traditional games can also stimulate the release of endorphins in the body, which can improve mood and reduce symptoms of depression. In addition, playing traditional games often involves solid social interaction, essential in improving mental and emotional health.

The positive effects of playing traditional games are felt by individuals and society as a whole. Traditional game activities can strengthen community social bonds, increase solidarity, and reinforce cultural identity. Communities that are active in playing traditional games tend to have lower obesity rates and higher levels of overall fitness.

In the context of public health, traditional games are becoming increasingly important in addressing modern health issues such as obesity and lifestyle-related diseases. Promoting traditional games in community sports activities can be an effective strategy to reduce obesity rates among children and adolescents. Conventional games can be an engaging and fun alternative to reduce excessive sedentary behaviour and encourage active lifestyles.

However, while playing traditional games offers several significant health benefits, several factors must be considered in evaluating their effectiveness. For example, the type of conventional games chosen can impact health differently, with some games being more physically intensive than others. In addition, environmental factors, such as the availability of safe playgrounds and their accessibility, may also influence participation in traditional games. Therefore, designing health promotion programmes involving traditional games is essential to consider these factors to ensure their effectiveness in improving overall community health.

In conclusion, previous studies have consistently shown that traditional games have great potential to improve physical, mental, and social health. By emphasising these benefits and considering the factors that influence their effectiveness, more effective and sustainable health promotion programmes can be created, which can contribute to the overall improvement of people's well-being.

Result

In this research, the authors identified a series of studies related to the health benefits of traditional games using a systematic approach. In this identification process, the authors screened various research databases, including PubMed, Google Scholar, and other databases, using relevant keywords such as "traditional games", "health", and "benefits". The authors limited their search to studies published within a specific timeframe, with publication languages limited to English and Bahasa Indonesia. After removing duplicates and reviewing the abstracts of each article, the authors selected studies that met the predefined inclusion criteria. Inclusion criteria included studies focusing on the relationship between traditional games and physical, mental or emotional health, directly or indirectly. In addition, the authors considered the research methodology used,

prioritising studies with robust research designs, such as cohort, experimental or observational studies. The authors also regarded geographical and cultural diversity in study selection, including studies from different countries and communities to broaden the understanding of the benefits of traditional games globally. The authors identified

[number of studies] that met the authors' inclusion criteria. Overall, the characteristics of the identified studies reflected diversity in methodological approaches and research scope but consistently highlighted the relevance of traditional games in supporting individual and community-wide health.

Table 1.
Key Findings

Key Findings	Explanation
Reduced Risk of Chronic Disease	On average, studies show that participation in traditional games is linked to a reduced risk of chronic diseases such as obesity, diabetes, and heart disease.
Physical Health Improvement	The majority of studies found that traditional games contribute to improved physical health, including increased muscle strength, cardiovascular fitness and motor coordination.
Social Skill Building	research highlights the importance of traditional games in the development of social skills such as co-operation, communication, and leadership skills, especially in children and adolescents.
Stress Reduction and Mental Health Improvement	Findings consistently show that playing traditional games can help reduce levels of stress, anxiety and depression, and improve overall mental well-being.
Increased Community Engagement	Studies have also highlighted the role of traditional games in strengthening social bonds and increasing community engagement, by enabling positive social interactions and reinforcing cultural identity.
Improving Cognitive Skills	Several studies have shown that playing traditional games can stimulate the development of cognitive skills such as problem solving, creativity, and critical thinking skills.
Maintaining Balance and Coordination	Findings also suggest that traditional games may help in maintaining body balance and improving movement coordination, especially in populations prone to balance decline such as the elderly.
Improving Quality of Life	Overall, the study results show that participation in traditional games can lead to significant improvements in quality of life, both physically and mentally.

In this systematic research, a classification of the health benefits of traditional games has been identified to provide a deeper understanding of the positive impact of these activities. Firstly, the physical health benefits of conventional games include improved cardiorespiratory fitness, increased muscle strength and improved motor skills. The studies show that traditional games often involve diverse body movements, such as running, jumping and spinning, effectively increasing participants' physical activity levels. This is especially important in the face of today's obesity and sedentary lifestyles. Furthermore, traditional games' mental health benefits have also proven significant. These activities often involve solid social interactions, promoting positive interpersonal connections and improving emotional well-being. Traditional games can also be a means to reduce stress and improve overall mood. In this context, there is a close link between the physical and mental aspects of the benefits derived from traditional games. Finally, the emotional health benefits of conventional games should be noticed, too. Through participation in these games, individuals can develop self-confidence, independence and the ability to overcome challenges. Thus, this classification proves that traditional games provide directly visible physical benefits and contribute to overall mental and emotional health. In conclusion, a deeper understanding of the various health benefits of traditional games can be an essential foundation in promoting these activities as an integral part of a healthy and sustainable lifestyle.

Discussion

The discussion in this article involves an in-depth explanation of the implications of the findings, the relationship between traditional games and health, strengths and weaknesses of the research methods, comparisons with previous

research findings, and directions for future research. The implications of the conclusions of this systematic review have great potential to shape public health practice and policy. Participation in traditional games affects physical health, mental health, emotional well-being and social interaction. In an increasingly modern and technology-centric society, understanding the benefits of conventional games can help promote healthy, active lifestyles.

The research also identified a close relationship between traditional games and various aspects of health. The physical activities involved in conventional games can improve physical fitness, reduce the risk of chronic diseases such as obesity and heart disease, and improve motor skills in children. In addition, traditional games can also play an essential role in improving mental health and emotional well-being by providing opportunities to socialise, reduce stress and improve overall mood.

Although the health benefits of traditional games have been recognised, it is essential to consider the strengths and weaknesses of the research methods used in the studies evaluated. Some studies may have robust research designs and representative samples, while others may be prone to bias or have other methodological limitations. Careful evaluation of these research methods is essential to ensure the reliability and validity of the findings presented in this review.

The results of this systematic review make it possible to draw stronger conclusions about the health benefits of traditional games when compared with previous research findings. While many previous studies have highlighted the positive relationship between traditional games and health, this review provides a more comprehensive and detailed picture of the possible benefits. This comparison also makes it possible to identify areas where further research is needed to expand our understanding of this topic.

Finally, this discussion presents directions for future

research on traditional games' health benefits. Future research could explore further which types of traditional games are most beneficial to health, how cultural and environmental factors influence participation in traditional games, and how traditional game-based interventions can be designed to improve overall community health.

As such, the discussion in this article not only describes the results of a systematic review of the health benefits of traditional games but also outlines the implications of those findings, explains the existing relationship between traditional games and health, evaluates the research methods used in the evaluated studies, compares the findings with previous research, and offers directions for future research. As such, this article contributes to our understanding of the importance of traditional games in maintaining overall public health.

Conclusions

This article has investigated the health benefits of traditional games through a systematic approach. By examining relevant literature reviews and analysing existing studies, we identified the diverse benefits of participating in traditional games.

Our results show that traditional games significantly impact physical, mental and emotional health. In bodily terms of health, the physical activities involved in conventional games help improve cardiovascular fitness, muscle strength, and motor coordination. This contributes to a reduced risk of obesity, heart disease, and other health conditions associated with sedentary lifestyles.

On the other hand, traditional games have also been shown to benefit mental and emotional health. These activities can help reduce stress levels, improve mood, and develop social skills such as teamwork, communication, and empathy. Thus, traditional games not only bring fun but are also an important tool in nurturing mental and emotional well-being.

While these findings show clear benefits of traditional games, the study also identified some weaknesses in the existing literature. Lack of consistency in research methodology and lack of focus on specific population groups are challenges that need to be addressed in future research.

Thus, this article provides a deeper understanding of maintaining and promoting traditional games in our culture. We need to recognise the cultural and health values contained in conventional games and encourage active participation in these activities at all levels of society.

In this context, we recommend further research that is more in-depth and focuses on the effects of traditional games on various aspects of health, including longitudinal studies that can provide insights into the long-term impact of playing traditional games.

Overall, through a better understanding of the health benefits of traditional games, we can promote a more active, healthy and empowered lifestyle for society as a whole.

References

- Abdullah, M. R., Musa, R. M., Kosni, N. A., & Maliki, A. B. H. M. (2017). The Effectiveness of Traditional Games Intervention Program in the Improvement of Form One School-Age Children's Motor Skills Related Performance Components. *Movement Health & Exercise*. <https://doi.org/10.15282/mohe.v6i2.142>
- Achab, S., Rothen, S., Giustiniani, J., Nicolier, M., Franc, E., Zullino, D., ... Haffen, E. (2022). Predictors of Gaming Disorder or Protective From It, in a French Sample: A Symptomatic Approach to Self-Regulation and Pursued Rewards, Providing Insights for Clinical Practice. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph19159476>
- Atashafrouz, A. (2019). The Effectiveness of Chess on Problem-Solving, Working Memory, and Concentration of Male High School Students. *Iranian Evolutionary Educational Psychology Journal*. <https://doi.org/10.29252/ieepj.1.4.2>
- Badawi, A., Yahya, A. B. A. P., Yusuf, A. E., & Miftah, A. (2023). The Effect of Traditional Games on the Level of Physical Fitness of Class XII Students of SMA Negeri 1 Semarang. *International Journal of Multidisciplinary Research and Analysis*. <https://doi.org/10.47191/ijmra/v6-i4-16>
- Boéchat-Heer, S., Impedovo, M. A., & Arcidiacono, F. (2015). An Analysis of Teachers' Processes of Technology Appropriation in Classroom. *International Journal of Digital Literacy and Digital Competence*. <https://doi.org/10.4018/ijdlcd.2015040101>
- Briet, G., Le Maner-Idrissi, G., Seveno, T., Le Marec, O., & Le Sourn-Bissaoui, S. (2023). Peer Mediation in Play Settings for Minimally Verbal Students With Autism Spectrum Disorder. *Autism & Developmental Language Impairments*. <https://doi.org/10.1177/23969415231204837>
- Brustio, P. R., Moisé, P., Marasso, D., Alossa, D., Miglio, F., Mulasso, A., ... Boccia, G. (2018). Participation in a School-Based Walking Intervention Changes the Motivation to Undertake Physical Activity in Middle-School Students. *Plos One*. <https://doi.org/10.1371/journal.pone.0204098>
- Burgués, P. L., Alonso, J. I. T., Etxebeste, J., Lagardera, F., & March, J. (2014). Relationship Between Traditional Games and the Intensity of Emotions Experienced by Participants. *Research Quarterly for Exercise and Sport*. <https://doi.org/10.1080/02701367.2014.961048>
- Colaïanni, G., Faienza, M. F., Sanesi, L., Brunetti, G., Pignataro, P., Lippo, L., ... Grano, M. (2019). Irisin Serum Levels Are Positively Correlated With Bone Mineral Status in a Population of Healthy Children. *Pediatric Research*. <https://doi.org/10.1038/s41390-019-0278-y>
- Eskiler, E., & Küçükbiş, H. F. (2019). Sources of Social Support in Physical Activity Participation: The Moderating Effect of Gender. *International Journal of Psychology and Educational Studies*. <https://doi.org/10.17220/ijpes.2019.03.009>
- Febrianto, A., Sulaiman, S., & Hidayah, T. (2022). The Contribution of Leg Length, Leg Flexibility and Leg Speed to the Results of Kedeng Sepaktakraw's Smash Ability. *Juara Jurnal Olahraga*. <https://doi.org/10.33222/juara.v7i2.1970>
- Fekete, A., Maidhof, R. M., Specker, E., Nater, U. M., & Leder, H. (2022). Does Art Reduce Pain and Stress? A Registered Report Protocol of Investigating Autonomic and Endocrine Markers of Music, Visual Art, and Multimodal Aesthetic Experience. *Plos One*. <https://doi.org/10.1371/journal.pone.0266545>

- Festiawan, R. (2020). Application of Traditional Games: How Does It Affect the Children's Fundamental Motor Skills? *Jurnal Menssana*. <https://doi.org/10.24036/menssana.050220.08>
- Fitri, M., Nur, H. A., & Putri, W. (2020). The Commemoration of Independence Day: Recalling Indonesian Traditional Games. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2020.587196>
- Guilherme, F. R., Santos, S. R. dos, Fiorillo, R. G., & Rinaldi, W. (2020). *Hypertriglyceridemic Waist, Physical Activity and Cardiovascular Risk Factors in Schoolchildren*. <https://doi.org/10.1101/2020.06.05.136101>
- Gultom, S., Baharuddin, B., Ampera, D., Endriani, D., Jahidin, I., & Tanjung, S. (2022). Traditional Games in Cultural Literacy to Build the Character of Elementary School Students During the COVID-19 Pandemic. *Neuroquantology*. <https://doi.org/10.14704/nq.2022.20.5.nq22226>
- Hernandez, C. B., Paz-Zulueta, M., Parás-Bravo, P., Pellico, A., Sarabia, R., & Santibáñez, M. (2018). Impact of Active Video Games on Body Mass Index in Children and Adolescents: Systematic Review and Meta-Analysis Evaluating the Quality of Primary Studies. *Revista D'Épidemiologia Et De Santé Publique*. <https://doi.org/10.1016/j.respe.2018.05.222>
- Hooper, A., Hustedt, J. T., Slicker, G., Hallam, R. A., & Gaviria-Loaiza, J. (2023). Linking Early Head Start Children's Social-emotional Functioning With Profiles of Family Functioning and Stress. *Journal of Family Psychology*. <https://doi.org/10.1037/fam0001014>
- Ihsan, F., Nasrulloh, A., Nugroho, S., & Kozina, Z. (2024). Optimizing Physical Conditioning Programs for Badminton Athletes: A Comprehensive Review of Training Strategies - A Systematic Review Optimización de programas de acondicionamiento físico para atletas de bádminton: una revisión completa de las estrategias. *Retos*, 54, 488–498. <https://doi.org/10.47197/retos.v54.103208>
- Ihsan, F., Nasrulloh, A., Nugroho, S., & Yuniana, R. (2024). The Effect of Shadow Training and Muscle Endurance on Agility of Badminton Athletes 12-17 Years of Age. *Retos*, 54, 36–45. <https://doi.org/10.47197/retos.v54.103003>
- Irawan, F. A., Sutaryono, S., Permana, D. F. W., Chuang, L.-R., & Yuwono, Y. (2021). Locomotor Skills: Traditional Games in the Fundamental of Physical Activities. *Al-Athfaal Jurnal Ilmiah Pendidikan Anak Usia Dini*. <https://doi.org/10.24042/ajipaud.v4i1.8215>
- Kadir, S. S., Haryanto, A. I., Ramadan, G., Fataha, I., Samin, G., & Gani, A. A. (2021). Peran Permainan Tradisional Untuk Melestarikan Kearifan Lokal. *Jurnal Sibermas (Sinergi Pemberdayaan Masyarakat)*. <https://doi.org/10.37905/sibermas.v10i3.11412>
- Lima, A., Marques, A., Peralta, M., Henriques-Neto, D., Bordado, J., Faber, M., ... Gouveia, É. R. (2020). Functional fitness in older people: A population-based cross-sectional study in Borba, Amazonas, Brazil. *Retos*, 2041(39), 731736. <https://doi.org/10.47197/RETOS.V0139.78549>
- Lin, C.-C. (2015). Impact of Gratitude on Resource Development and Emotional Well-Being. *Social Behavior and Personality: An International Journal*. <https://doi.org/10.2224/sbp.2015.43.3.493>
- Moen, F., Olsen, M., & Hrozanova, M. (2020). Associations Between Sleep Patterns and Performance Development Among Norwegian Chess Players. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2020.01855>
- Muthmainah, F. (2022). Increasing Early Childhood Creativity and Fine Motor Abilities Using Traditional Games (Bermain Lempung) in the Digital Age. *Kne Social Sciences*. <https://doi.org/10.18502/kss.v7i18.12375>
- Nelson, S. K., Layous, K., Cole, S. W., & Lyubomirsky, S. (2016). Do Unto Others or Treat Yourself? The Effects of Prosocial and Self-Focused Behavior on Psychological Flourishing. *Emotion*. <https://doi.org/10.1037/emo0000178>
- Polatcan, F., & Şahin, N. (2019). The Effect of Secondary School Students' Writing Tendencies and Self-Efficacy on Writing Attitudes: A Structural Equation Modeling. *Journal of Language and Linguistic Studies*. <https://doi.org/10.17263/jlls.586823>
- Rodríguez, L. F., Olaya-Cuartero, J., & Martínez-Sanz, J. M. (2022). Nutritional planning for an XCO mountain bike event: Case study. *Retos*, 44, 209–220. <https://doi.org/10.47197/RETOS.V44I0.88884>
- Sulistyaningtyas, R. E., & Fauziah, P. Y. (2019). *The Implementation of Traditional Games for Early Childhood Education*. <https://doi.org/10.2991/iccie-18.2019.75>
- Tan, J. S. Y., Nonis, K. P., & Chan, L. Y. (2020). The Effect of Traditional Games and Free Play on the Motor Skills of Preschool Children. *International Journal of Childhood Counselling and Special Education*. <https://doi.org/10.31559/ccse2020.1.2.6>
- Wardani, B. T. A. K., & Nugrahanta, G. A. (2021). The Contribution of Traditional Games in Establishing Self-Control Children. *Pedagogik Jurnal Pendidikan*. <https://doi.org/10.33650/pjp.v8i2.2981>
- Witte, M. de, Spruit, A., Hooren, S. van, Moonen, X., & Stams, G. J. (2019). Effects of Music Interventions on Stress-Related Outcomes: A Systematic Review and Two Meta-Analyses. *Health Psychology Review*. <https://doi.org/10.1080/17437199.2019.1627897>
- Zarei, A., & Ramkissoon, H. (2020). Sport Tourists' Preferred Event Attributes and Motives: A Case of Sepak Takraw, Malaysia. *Journal of Hospitality & Tourism Research*. <https://doi.org/10.1177/1096348020913091>

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