

E-Sports Phenomenon and Physical Education: A Social Study on the Shifting Meaning of Sports Activities

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Abstract: The development of technology and digitalization has given rise to a new phenomenon in the world of sports—e-sports—which shifts the concept of sports from physical activities to the virtual realm. This study aims to analyze the position of e-sports within the context of physical education and its implications for the changing meaning of physical activity from a socio-cultural perspective. The research employs a qualitative method with a descriptive approach through literature review, academic articles, and relevant previous studies. The findings indicate that although e-sports do not require intensive physical activity, they possess competitive characteristics similar to traditional sports, particularly in aspects of strategy, sportsmanship, and teamwork. The popularity of e-sports among younger generations presents both challenges and opportunities for physical education to integrate digital literacy, 21st-century skills, and values of sportsmanship without neglecting the importance of physical health. Socio-culturally, e-sports reflect the dynamics of digital society while reaffirming that the meaning of sports is dynamic and contextual. Therefore, educators, communities, and the government need to play an active role in guiding the development of e-sports to maintain a balance between physical, educational, and achievement dimensions.

Keywords: e-sports, physical education, shifting meaning of sports, socio-cultural perspective

INTRODUCTION

The development of technology and digitalization has brought significant changes to various aspects of life, including the world of sports. In the past, sports were closely associated with physical activities requiring direct bodily engagement, but a new phenomenon known as e-sports has now emerged. E-sports represent a form of competitive digital activity that relies on strategic thinking, quick decision-making, and visual-motor coordination. This phenomenon has become increasingly popular, particularly among younger generations, leading to a shift in the meaning of sports—from purely physical activities to the virtual domain. Such a shift has sparked debates about the boundaries of sports definitions and their implications for physical education as a discipline traditionally focused on physical activity.

Recent studies have shown that e-sports possess a level of complexity comparable to traditional sports. Carrani et al. (2022) found that training in e-sports requires perseverance, strategic thinking, and mental endurance similar to physical sports, even though it does not involve intensive bodily movement. This suggests that despite the difference in medium, e-sports maintain strong competitive characteristics.

From an educational perspective, research by Trotter et al. (2022) in *Frontiers in Psychology* explains that students' involvement in e-sports programs can contribute to the development of self-regulation, growth mindset, and other psychological aspects beneficial for learning and social development. Furthermore, e-sports are considered a potential medium for cultivating 21st-century skills such as critical thinking,

collaboration, communication, and creativity (Zhong et al., 2025). However, debates have also emerged regarding the health impacts of e-sports due to the sedentary nature of its activities. Recent findings indicate that e-sports participants tend to face challenges related to sleep patterns, musculoskeletal pain, and low physical activity levels. Nevertheless, these issues can be mitigated through preventive strategies such as additional physical exercise and proper ergonomics (Tang et al., 2023). Other studies have even shown that structured physical training interventions can enhance both cognitive performance and physical health among professional e-sports players (Matesanz et al., 2024).

Therefore, this study focuses on several key aspects: how e-sports are positioned within the context of sports and physical education, whether e-sports can be categorized as sports from a social perspective, and how they influence the meaning of physical activity for younger generations. Based on these considerations, the purpose of this research is to analyze the e-sports phenomenon from educational and social perspectives, and to explain how the meaning of sports shifts within the context of digital culture.

The significance of this study is twofold. Theoretically, it is expected to enrich the body of knowledge in the sociology of sports, particularly in understanding the dynamic transformation of sports concepts in the digital era. Practically, the findings can provide valuable insights for physical education teachers, communities, and policymakers in responding to the e-sports phenomenon, enabling them to find a balance between physical and digital forms of sport.

RESEARCH METHOD

This study employs a qualitative approach with a descriptive analysis method, as its main focus is to understand the e-sports phenomenon and its relationship with physical education from a social perspective (Poulus et al., 2022). The data sources consist of relevant literature, including scientific journals, books, academic articles, e-sports community reports, and previous studies discussing digital sports and physical education. To strengthen the analysis, the data may also be complemented by interviews or observations conducted within e-sports communities or physical education environments (Rahman et al., 2023).

Data collection techniques are carried out through document studies by reviewing various written sources related to the research topic, as well as participatory or virtual observations when necessary, to gain an understanding of the dynamics of e-sports practices in both real-life and digital contexts. Data analysis follows an interactive model, which includes data reduction, data presentation, and conclusion drawing. Through this process, the collected data are systematically processed to identify patterns, meanings, and social implications of the e-sports phenomenon in relation to the shifting meaning of sports within the context of physical education (Firmansyah et al., 2025).

RESULT AND DISCUSSION

The E-Sports Phenomenon in Society

In recent years, the e-sports phenomenon has shown rapid growth. According to Lawang and Jannah (2023), Indonesia ranks 17th globally with more than 100 million active gamers, making it one of the largest e-sports markets in Southeast Asia. Major events such as the Mobile Legends Professional League (MPL) and the inclusion of e-sports in the 2019 and 2023 SEA Games demonstrate that e-sports have been officially recognized as a competitive sport. This development signifies a transformation in the understanding of sports—from being primarily associated with physical activity to encompassing digital forms that emphasize strategy, concentration, and fine motor skills.

Comparison Between Traditional Sports and E-Sports

Compared to traditional sports, e-sports do not demand intensive physical activity. However, both share similarities in aspects such as competition, strategy, teamwork, and sportsmanship. For example, in international e-sports tournaments, athletes are required to undergo mental and team strategy training similar to physical sports preparation. Nonetheless, the limited bodily involvement in e-sports has led to academic debates regarding its classification as a sport.

This aligns with the findings of Sinclair et al. (2022), who emphasize that e-sports incorporate elements of traditional sports such as competition, regulation, and mental training, despite differing in the physical dimension. In Indonesia, Rahman et al. (2021) also highlight the opportunities and challenges of e-sports as a new form of sport, particularly within the contexts of physical education and socio-cultural development.

Thus, while academic debates continue, it can be concluded that e-sports share many dimensions with traditional sports—especially in terms of competition and sportsmanship—though they differ significantly in physical demands.

Implications for Physical Education

The popularity of e-sports has had a direct impact on the interests of younger generations. A survey by the Ministry of Youth and Sports indicates that around 60% of high school students in urban areas are more enthusiastic about participating in e-sports tournaments than in conventional sports competitions. This poses a challenge for physical education teachers, who must maintain students' interest in physical activities while remaining relevant in the digital age.

On the other hand, e-sports can be utilized as a learning medium to teach values such as sportsmanship, strategy, and digital literacy, allowing physical education to focus not only on physical development but also on mental and social growth. Studies in Indonesia show that students' interest in physical education remains high when learning methods or media are appropriately adapted. For instance, a study at SMP Negeri 2 Megaluh found that students' interest in physical education was very high (Wibowo et al., 2025). However, there is still limited empirical data confirming that students are “more enthusiastic about e-sports tournaments than conventional sports competitions.”

If such surveys are conducted, teachers should identify students' preferences so that physical education materials can incorporate or align with digital elements that attract them. Research by Chaeruddin and Irawan (2025) on The Influence of Teachers' Professional Competence, Digital Literacy, and Sports Facilities on the Effectiveness of Physical Education Learning shows that teachers' digital literacy and digital facilities have a significant impact on the effectiveness of physical education teaching. Furthermore, Firmansyah et al. (2025), in their study on The Integration of Physical Literacy Learning for Teachers and Students in Elementary Schools in Makassar, emphasize that physical literacy involves the theoretical and practical ability of students to understand, appreciate, and engage in lifelong physical activities.

Positive and Negative Impacts of E-Sports

E-sports help develop concentration, strategy, emotional management, and teamwork skills. For example, the study Measuring Arousal and Stress Physiology in Esports (Berga et al., 2023) found that in competitive matches, key in-game events (such as defeating opponents, dying, or destroying turrets) trigger physiological responses like increased heart rate and electrodermal activity—indicating high levels of stress, anticipation, and focus among players.

F-sports also serve as a medium for character building and promoting a culture of sportsmanship. A study titled Impact of E-Sport Games on Character Building and Sports Culture in Indonesia (Nugroho et al., 2022, UNY) shows that e-sports have a “very positive” influence on sports culture and character development, such as perseverance and hard work. However, the study also notes negative effects, with about 52.5% of participants experiencing mild to moderate depression. Other issues include sedentary lifestyle, eye strain, musculoskeletal problems, gaming addiction, and physical and mental health disorders, as well as eating and metabolic problems leading to obesity.

Socio-Cultural Reflection

The shift in the meaning of sports brought about by e-sports reflects the cultural dynamics of society in the digital era. Sports are no longer confined to physical activities but can also occur in virtual spaces with comparable competitive standards. This demonstrates that the meaning of sports is dynamic, influenced by technological advances, popular culture, and the social needs of younger generations.

Several studies support this perspective. A scoping review by Riatti and Thiel (2022) reveals that e-sports have broad social impacts, ranging from changes in participation motivation to the emergence of new communities equivalent to traditional sports, albeit in virtual settings. In Indonesia, Rahman et al. (2023) highlight that e-sports are not merely a form of entertainment but part of the modern sports culture, requiring institutional recognition and appropriate regulation to align with societal values.

Therefore, e-sports can be regarded as both part of the evolution of modern sports and a reflection of social transformation. Physical education must respond to this change critically to maintain a balance between physical health and digital literacy. Physical education teachers not only play a role in sustaining

students' interest in physical activities but also in fostering values of sportsmanship, teamwork, and digital cultural awareness that emerge through the e-sports phenomenon.

CONCLUSION

This study concludes that the e-sports phenomenon has brought a shift in the meaning of sports—from conventional physical activities to virtual competitions that emphasize strategy, concentration, sportsmanship, and teamwork. Although physical involvement is relatively limited, e-sports demonstrate competitive characteristics comparable to traditional sports and have gained legitimacy through official events.

This situation requires physical education to adapt by integrating digital literacy and 21st-century skills without neglecting the importance of physical activity. Therefore, physical education teachers need to develop balanced learning strategies that combine physical sports with the use of e-sports as a medium for teaching sportsmanship values. Communities and parents are expected to support young people's participation in e-sports proportionally, with attention to their physical health. Meanwhile, the government should formulate regulations and policies to ensure that the development of e-sports is directed toward educational and achievement-oriented dimensions. Future research is recommended to conduct more in-depth empirical studies on the physical, psychological, and social impacts of e-sports participation among students.

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