

IMPACT OF E-SPORTS ON PHYSICAL ACTIVITY**AMONG YOUTH****Dr. Sumanta Sarkar**Assistant Professor, Nikhil Banga Sikshan Mahavidyalaya, Tilbari,
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Abstract:

The rapid growth of electronic sports (e-sports) has transformed leisure and competitive entertainment among youth worldwide. While e-sports offer opportunities for cognitive skill development, teamwork, and career prospects, they have also contributed to a decline in traditional physical activity levels. This study aims to encourage active sports, healthy activity, and growth while offering young people sensible direction away from sedentary, addictive, and other harmful behaviors and also investigates the impact of e-sports participation on youth lifestyles. This paper examines the impact of e-sports participation on physical activity patterns among young people, analyzing both its benefits and health implications. Findings from recent studies suggest that excessive engagement in e-sports leads to sedentary lifestyles, reduced cardio respiratory fitness, and musculoskeletal problems. However, balanced participation combined with structured physical exercise can mitigate negative effects. E-Sports has quickly grown into a big part of modern digital entertainment, changing how young people use technology, compete, and talk to each other. The study concludes with recommendations for integrating physical fitness components into e-sports training programs and educational settings.

Key Words: E-Sports, Physical Activity, Youth, Sedentary Behavior, Health, Fitness

1. Introduction:

The 21st century has witnessed an unprecedented rise in electronic sports, or e-sports, as a global phenomenon. Defined as organized competitive gaming using digital platforms, e-sports have become a mainstream form of recreation and professional pursuit among youth. Early and adolescent physical activity can help pave the way for long-term adult health. Teenagers are using digital media more and more every day, and a variety of media platforms have an impact on physical activity. These include social media, smart phones, wearable technology, web-based activities, eHealth/mHealth therapies, video games, and active videogames. This chapter will go over the known good and negative effects on teenage physical activity, provide more definitions for different media platforms, and suggest possible directions for future research (MacDonald et al., 2020).

It is evident that the financial advantages of the video game industry are growing in prominence and have steadily drawn interest from people from all walks of life (Kramer et al., 2021). Simultaneously, e-sports emerged from the differentiation of the sports characteristics of video games, and there are numerous connections between e-Sports and various domains, including culture, sports, and games, reflecting the fundamental demands of contemporary human society for the pursuit of game competition excellence in terms of instinct, desire, and advancement (Martončik, 2015; Ningning & Wenguang, 2023). In one of the few previous studies, Wagner (2006, p. 3) has defined e-Sports as "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies" (Relating Five Factor Personality Traits to Video Game Preference - Docslib, n.d.).

The convenience of online gaming, advanced technology, and increasing social recognition have made e-sports an integral part of modern youth culture. However, this digital transformation has also raised concerns regarding the decline in physical activity among young individuals. Physical inactivity is one of the leading global health risks, associated with obesity, cardiovascular diseases, and psychological issues. The World Health Organization (WHO) recommends at least 60 minutes of moderate-to-vigorous physical activity daily for youth, a standard that many e-sports participants fail to meet. This article investigates how e-sports engagement influences physical activity patterns among youth and explores strategies to balance virtual gaming with active lifestyles. According to a review of earlier research, the majority of sports video game studies conducted in the early 21st century concentrated on users' propensity for violence, aggressive behavior, game addiction, and other negative aspects (Maher et al., 2013). However, negative effects like low real participation rates and low willingness to engage in physical activity among the general population, as well as the urgent need to address the development of young people's health, are caused by contemporary unhealthy behaviors like game addiction, visual health issues, and sedentary behavior among young people (Ningning & Wenguang, 2023).

2. Review of Literature:

Recent studies reveal a significant shift in youth recreational behavior from outdoor physical games to screen-based entertainment. According to Statista (2024), the global e-sports audience surpassed 600

million, with a substantial proportion aged 15-25 years. Research by Kim & Thomas (2022) indicated that students who spend more than three hours daily on gaming show 35% lower physical activity levels compared to non-gamers. On the other hand, scholars such as Jenny et al. (2017) argue that e-sports can enhance cognitive coordination, problem-solving ability, and team communication, similar to traditional sports in their competitive and strategic demands. Nevertheless, the absence of physical exertion distinguishes e-sports from conventional sports, leading to concerns about sedentary behavior, obesity, and posture-related musculoskeletal issues. Moreover, Mandolesi et al. (2018) emphasize the importance of physical exercise for optimal cognitive functioning, suggesting that integrating physical fitness routines could enhance e-sports performance and health simultaneously.

3. Objectives of the Study:

- To examine the relationship between e-sports participation and physical activity levels among youth.
- To identify health consequences associated with sedentary e-sports behavior.
- To explore strategies for promoting physical activity alongside e-sports engagement.

4. Methodology:

This paper is based on a qualitative review and synthesis of existing empirical studies, reports, and surveys published between 2018 and 2024. Databases such as PubMed, Scopus, and Google Scholar were used to identify relevant literature. Keywords included “e-sports,” “physical inactivity,” “youth health,” “gaming addiction,” and “sports behavior.” Studies focusing on youth aged 12-25 were prioritized. Findings were analyzed thematically under three categories: gaming habits, health outcomes, and intervention approaches.

5. Discussion:

The reviewed studies consistently show that e-sports participation is correlated with reduced physical activity levels. Prolonged sitting, often exceeding six hours per day, contributes to weight gain, poor posture, and musculoskeletal discomfort. Additionally, the immersive nature of e-sports leads to irregular sleep patterns and unhealthy dietary habits. However, it is important to recognize that e-sports also foster certain psychological and social benefits. Players often develop teamwork skills, quick reflexes, and stress management abilities. The challenge lies in achieving equilibrium between digital gaming and physical fitness. Integrating short bouts of exercise between gaming sessions, promoting “active gaming” setups (such as VR-based games), and encouraging institutional sports participation can help mitigate health risks. Educational institutions and e-sports organizations should collaborate to develop hybrid training programs that include physical fitness, nutrition guidance, and mental health awareness.

6. Conclusion:

E-sports, though intellectually stimulating and socially engaging, have inadvertently contributed to a decline in physical activity among youth. Sedentary gaming behavior poses serious risks to long-term health and well-being. Nevertheless, a balanced approach combining gaming with regular exercise and healthy lifestyle practices can transform e-sports into a more sustainable form of recreation and competition. The promotion of “fit gamers” should become a guiding principle for educators, coaches, and parents.

7. Recommendations:

- Encourage e-sports participants to engage in at least 60 minutes of moderate physical activity daily.
- Introduce structured fitness programs within e-sports clubs or school gaming communities.
- Incorporate ergonomics and posture training for gamers.
- Conduct further empirical studies comparing physical and psychological outcomes among active vs. sedentary e-sports players.
- Raise awareness about digital wellness and screen-time management.

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