

Original Article Research

Impact from the Activity Physical It is Leisure in practitioners in EsportsCarla Cristina Vieira Lourenço^{1*}, Erick Burhaein²¹Center for Studies in Education and Innovation, Polytechnic University of Viseu, Portugal²Department of Sports Education, Faculty of Teacher Training and Education, Universitas Maarif Nahdlatul Ulama Kebumen, Indonesia*email corresponding author: ccvl@ubi.pt

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Abstract

The purpose of this work is to identify the contribution of Esports in promoting Physical Activity and Leisure. This is an exploratory and descriptive research conducted through The bibliographic analysis using The set of databases. The study was based on 551 articles, of which 14 were selected for the development of this work, with 6 of them being analyzed in detail. As a conclusion, it was observed that Esports play a significant role in promoting physical activity and leisure, providing numerous benefits for the health, well-being, and performance of its practitioners. From this research, we can find out the influence of esports on the promotion of physical activity, namely leisure, such as the following some positive impacts and negative impacts on the lives of practitioners. In the context of promoting physical activity and leisure, there are four areas where Esports can play a relevant role: new technologies, active electronic games, media, and the potential for physical activity to improve performance. Considering the indicators, it is essential to adopt strategies aligned with the activity physical, optimizing to the benefits in each one from them.

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1. INTRODUCTION

The delimitation of the concept of Esports is not uniform. Different interpretations are attributed to this concept. According to Saraiva et al. (2013), it can be described as a field of sporting activities in which the athlete develops physical and mental skills using information and communication technologies. According to (Macedo & Falcão, 2019), Esports represent an evolution of traditional sport. In practice, the athlete is connected to a technological device that

performs part of the work. The practice requires bodily skills and cognitive capacity, and through it, these skills are improved. Esports are games in which players compete using electronic devices connected to the internet or other devices systems electronics, aiming to win prizes monetary or others compensation (Jenny et al., 2017).

Esports, E-sports or eSports, terms attributed to Electronic Sports or electronic sport, are video games or computer games transmitted online, characterized by a competitive aspect for professional players. An electronic game constitutes a platform with different uses, and can be used just to play or as a tool in training. It is education in certain modalities (Toth et al., 2021). Nowadays, several video games dominate Esports competitions, notably League of Legends, Hearthstone, StarCraft two, Heroes of the storm, FIFA, Counter Strike or Call of Duty (Jacobson, 2021). A practice in exercise physicist he can to be understood as all It is any movement of the body that involves a muscular contraction and results in an energy expenditure, encompassing components of a biopsychosocial, behavioral and cultural nature (de Oliveira et al., 2009). Physical exercise is perceived as a behavior capable of influencing an individual's physical fitness, also playing a crucial role in their health and functional capacity. The types of physical exercise that can be practiced include aerobic activity, muscle strengthening and bone strengthening.

The World Health Organization (WHO, 2023) defines physical exercise as any body movement carried out by the musculoskeletal system that requires energy expenditure. Important emphasize what term exercise physicist no he must to be confused with activity physical, what if refers The one movement body planned, structured It is repetitive, with the aim of improving or maintaining physical capabilities. Over time, Esports have experienced several transformations that bring them closer to conventional sports. Extensive academic research aims to analyze its process in speculation in Marketplace, to the your characteristics It is The your history, what, In many ways, it is intertwined with the history of the sport itself.

According to (Seo, 2013), the electronic games industry is currently the third most profitable in the world. Esports have altered the individual nature and temporal dimension of leisure and entertainment on a global scale. With the advent of the Internet, you Esports have become one social phenomenon, reaching the category sporting event followed by millions of fans around the world. This new sporting modality generates significant income for programmers, clubs, players and sponsors (Fieiras Ceide et al., 2022). A study conducted by the giant company Google and Newzoo reveals that between 2019 and 2020 there was one growth exponential in players, fence in 3 millions, what invested 180 thousand millions in dollars in games, corresponding The 52% of revenues in games mobile (Wijman, 2021).

In Portugal, more and more clubs are focusing their attention on Esports, including the Federation Portuguese in Soccer - eFootball, The Federation Portuguese in Motorsports and Karting, the Portuguese Electronic Sports Federation and Sporting Clube de Portugal, among other clubs from different divisions. Internationally, there are organizations such as the European Esports Federation (EEF) and the International Esports Federation (IESF), as well as other global bodies. According to the Portuguese Olympic Committee, an effort is being made to integrate Esports into the Olympic Games, with the main obstacle being the recognition of this new modality as a sport (Fantini, 2023). The Portuguese Electronic Sports Federation ensures that Esports is a relevant industry at a global level, with a significant increase in practicing athletes, clubs, coaches and referees, as well as an increase in national and international competitions with the participation of large sponsors and high monetary sums.

According to Martín Muñoz & Pedrero Esteban, (2019), Esports are broadcast worldwide through streaming, competing in audience numbers with traditional sports such as soccer and Basketball. A company in consultancy Newzoo estimates what impact of competitions electronics will reach 276 million in spectators until 2022 (Rusten, 2021). The Electronic Sports League (ESL) is one of the organizations that holds the largest number of competitions in Esports, starting tournaments at Europe. It is managing championships in around the world, broadcast online to a vast and growing audience of viewers (Marcos, 2018). With base in the studies carried out and in the associated numbers, it is concluded that Esports represent a global trend for the future.

Esports represent a contemporary phenomenon that attracts a considerable number of players, intensifying competition. In this sense, the time dedicated to training for competitions is substantial, often equivalent to the number of hours invested by professional athletes in traditional sports. Due to the intensive practice, it is expected that practitioners will face health problems, not only on a physical level, but also on a mental level (Mazeas et al., 2022). Several harmful habits are highlighted, such as the prolonged time that players spend sitting, contributing to an increase in Body Mass Index (BMI), associated with obesity. It is one style in life little healthy. In addition, from that, it is observed one propensity for consumption in alcohol, drugs and habits smokers in between you Esports players.

Studies indicate one relationship in between time in practice and level in obesity, being that one practice more prolonged favors one bigger level in obesity. Time sedentary lifestyle can contribute to a greater risk of injuries and chronic diseases, metabolic dysregulation, problems with circadian cycles and complications at cervical zone (Trotter et al., 2020). Despite from the evidence to point for behaviors sedentary per part of the players in Esports, there are cases of elite athletes who incorporate the practice of physical activity into their regime in training. These examples demonstrate improvements at performance, increase of capacity in attention and reduction at levels in stress. However, the majority of the Esports practitioners do not integrate physical activity as an essential part of the training process (Trotter et al., 2020). The influence of Esports is not limited to the physical level, it also has an impact on the mental level. On the one hand, the practice is positive by promoting fun and interaction between players. On the other hand, excessive practice of Esports can result in the development of sleep disorders, mood disorders, stress and aggressive behaviors (Wattanapisit et al., 2020).

Currently, it is visible that the practice of physical activity among young people is lower than it would be desirable, considering you knowledge existing about you benefits this practice for health and well-being. One of the reasons given for the reduced level of activity physical is time dedicated to the new technologies, especially to the Digital games. Despite of increase of time dedicated to the esports, many yet you they consider it a futile activity when compared to traditional sports (Murphy, 2009). Although some authors see Esports as something useless, many argue that they should be recognized as a sport, highlighting that the practice requires exercise. regular It is development in skills motor similar to the traditional sports. However, studies indicate that intense physical activity improves functions cognitive and cognitive capacity, while you Esports do not demonstrate significant improvements in these aspects (Kindermann et al., 2016).

In recent years, Esports have become increasingly popular in free time, involving millions of practitioners, driven by the ease of playing online at any time and with people from all over the world (Seo & Jung, 2016). One of the benefits associated with this practice is the improvement of communication skills, as many games are played as a team, requiring communication between

players (Trepte, 2021). However, practicing Esports also has negative effects, such as low academic performance, problems with health and behavioral (Varga Szépné et al., 2019). A practice intensive in Esports, along with other sedentary behaviors, has impacts on the health and physical condition of young people, including decreased physical capacity and the emergence of psychological illnesses. The practice is associated with the intake of foods rich in salt, fat and sugar, contributing to the increase in obesity and, consequently, to less physical activity (Varga Szépné et al., 2019).

Esports represent an activity that provides long periods of inactivity physical, standing equally associates. The standards food any less healthy. Due to these factors, practitioners are subject to the development of various health conditions, both physically and mentally (Ketelhut et al., 2021). Despite the possible harmful effects of practicing Esports, we will address what form they can contribute for The promotion from the health, from the activity physical It is of well-being of its participants, in addition to discussing solutions to mitigate adverse impacts that may arise on the health of practitioners. Technological innovations can be seen as drivers of sedentary behaviors, but also as facilitators in promoting physical activity. Mobile applications for recording and carrying out physical activity, as well as devices such as smartwatches or fit bands, have the potential to stimulate greater involvement with physical activity, motivating users to practice it.

A technology he can to be one ally at resilience in obstacles associates The traditional practice of physical activity, allowing remote interventions. This way, technicians can monitor customer activity without the need for face-to-face contact, accessing The data what facilitate control from the activity (Spanakis et al., 2016). Immersed in the technological universe, Esports fans capitalize and use technology to encourage the practice of physical activity, boosting motivation for increasingly intense participation. The practice of Esports via mobile phones has seen an increase, and, in this sense, The use of device for promote The activity physical reveals itself interesting (Aldenaini et al., 2020), and crucial to adopt strategies for promote. The activity physical that incorporate elements of Esports, such as competition and strategy, with the aim of motivating the Esports community to engage in physical activity (Ketelhut et al., 2021).

You games they are described as activities motivating what offer fun experiences, allowed The learning and development of skills. You exergames emerge as a new modality that combines physical and cognitive elements in games. In these, the player needs to be physically active, performing body movements for to reach goals. Depending on of type in game, he can be used as a tool to perform physical activity, being controlled through the game itself (Martin-Niedecken et al., 2021). Due to their motivating and playful nature, exergames can serve as a form of physical activity for Esports practitioners, playing a role paper crucial at the Enhancement of skills physics in one environment safer. Practicing these games stimulates the cognitive and physical development of skills that can impacts positively at health It is performance of the players in Esports (Martin-Niedecken et al., 2021). Exergames incorporate immersive technologies such as augmented reality, mixed It is reality virtual, promoting one bigger interaction It is involvement with the game, encouraging the player to move during practice (An & Nigg, 2017). Considering to the several benefits of the exergames, It is imperative consider The your inclusion in training of the players in Esports, with intention in to improve The practice in activity physical, reduce downtime and improve your performances as players (Ketelhut et al., 2021).

Currently, the media exert a significant influence in people's behavior, constituting channels for the dissemination of global information, with the capacity to highlight issues related

to health and the practice of physical activity. Social media and “digital influencers” play a crucial role in promoting health by encouraging healthy behaviors and activities (Kostygina et al., 2020). You Esports, for your connection The Internet It is events online what congregate millions of spectators, become local ideal for to disclose information about activity physical. The digital component allows for more intense interaction between fans and players, being able to follow them not only in competitions, but also during training sessions broadcast online via streaming . This practice strengthens the relationship between the player and the fan, providing them with the opportunity to influence the behaviors of millions of followers. It is essential that healthcare professionals view this phenomenon as a tool they can use to promote healthy habits and regular physical activity (Ketelhut et al., 2021). With the growing professionalization in Esports , it is understood that the exclusive practice of the game itself is insufficient to achieve excellence in performance. Therefore, it is imperative to carry out complementary activities to the game to make training more effective. Physical exercise appears as a complementary activity, presenting the potential to improve players' performance. Its practice results in improvements in memory, information processing and attention capacity, crucial skills in the practice of Esports (Toth et al., 2020).

Physical exercise also positively influences mood, contributing to the reduction of anxiety and stress, factors that can directly impact performance in the game. Given the considerable time spent practicing, Esports athletes are susceptible to developing injuries, chronic illnesses, and postural problems. It is questions psychological. A practice regular in exercise allows to prevent injuries, improve state cognitive, promote O well-being It is optimize skills, thus maximizing performance (Ketelhut et al., 2021).

Based on the explanation above, there is an urgency related to the contribution of Esports in order to promote physical activity. Then, the focus of the problem is poured into the following research question "How to identify the contribution of Esports in promoting Physical Activity and Leisure.

2. METHOD

A search bibliographic he was driven using bases in data in free access, using to the key words " Esports ", "Activity Physical", "Health" It is "Well-being". The platforms used for The search they were The B-on, at which we insert all to the keywords, resulting in 557 articles, and Pubmed , with the terms " Esports " and "Health", generating a total of 106 articles. From a total of 551 articles, we selected 14 to prepare our research work. Among these 14 articles, we highlight the methods and conclusions of 6 of them, as they were aligned with the topic under study, as presented in Table 1. During the detailed analysis of these 6 articles, we referenced the authors' citations, the variables studied, the methodology adopted and the conclusions reached.

3. RESULTS AND DISCUSSIONS

Table 1 below presents the results of the PEAK analysis based on the search for available scientific evidence. The analysis aims to identify key trends and patterns in data obtained from credible scientific sources. The preparation of this table is based on a systematic and comprehensive method, ensuring that each information included has high relevance and significance to the topic under study.

Table 1*Analysis PEAK, search in evidence scientific*

| Quote from the author | Participants | Variables in study | Method | Conclusions |
|--------------------------|--------------|--|---|--|
| Trotter et al | 1772 student | Promotion from the health. Physical activity. Obesity us esports players. | Relations hip between health and physical activity in esport practitioners | There are more Esports players than were classified with Weight considered normal compared to the normal population. While what O number in players with obesity Class 2 and 3 was greater than the general population. The levels of physical activity are lower. A percentage of no smokers it's from 92%, It is in players no consumers in alcohol It is of 65.1%. |
| (Spanakis et al., 2016) | - | Lifestyle; health promotion; wellness programs; technology and health | Review of the state of the art regarding technology development and implementation for promotion from the health. | A use in new technologies he can contribute for the promotion of well-being and health. Adoption in styles in life more healthy he can be monitored through technological support. |
| (Aldenaini et al., 2020) | 80 articles | Cell phone; persuasive technology; Mobile phone applications; Physical activity; Sedentary Behavior; | Revision quantitative systematic. | Trend for growth from the use in cell phones. The cell phone, together with certain applications, can promote physical activity and reduce sedentary behaviors. The use of cell phones with tracking sensors increases adherence to physical activity. |

| | | | |
|--|---|------------------------------------|--|
| (Martin- Niedecke n & Schättin , 2020) | Esports, Exergames cognition; Activity physical; performance; Health; | Revision systemati c | Exergames can be a promising approach for practicing physical activity in Esports players, and this could be a training option that contributes to improving their performance. |
| (Toth et 70 articles al., 2020) | Exercise physicist; Cognition; Esports; Psychology cognitive; Physical activity; | Revision systemati c | Memory, attention, information processing capacity and skills cognitive are important for success in the practice of Esports Physical exercise, more specifically aerobic exercise, causes improvements in attention span. Introducing physical activity into the athlete's routine provides benefits in terms of physical and mental health, presenting benefits cognitive skills that they can to be advantageous for The practice in Esports. |
| (Ketelhu - t et al., 2021) | Players; Promotion from the Health; Activity physical; Exergames; Esports | Revision from the literature | For reformulate phenomenon of the Esports must be promoted efforts for to change The your nature sedentary, It is become you players promoters from the health It is practice in activity physical; Using players to communicate and transmit behaviors what promote physical activity to reduce of time of sedentary lifestyle. Necessary to understand you Esports as phenomenon global It is use them as tool for the promotion from the health. To develop athletes in Esports healthier he can result in a modeling of your behaviors by part of your followers, what if he can translate in improvement from the health publish. |

From this research, we can find out the influence of esports on the promotion of physical activity, namely leisure, such as the following some positive impacts and negative impacts on the lives of practitioners. In the context of promoting physical activity and leisure, there are four areas

where Esports can play a relevant role: new technologies, active electronic games, media, and the potential for physical activity to improve performance.

First, new technologies integrated in esports have great potential to promote physical activity. Technological developments such as virtual reality (VR) and augmented reality (AR) allow players to be more physically active while playing. VR and AR not only offer a more immersive gaming experience but also require players to move more compared to traditional games. This opens up opportunities to bridge the gap between electronic gaming and physical activity, leveraging the appeal of esports to encourage healthier lifestyles.

Secondly, active electronic games, such as games that require full body movement, have begun to gain popularity within the esports community. Games like Just Dance or Beat Saber require players to follow fast, coordinated movements, which in turn can improve their physical fitness. This shows that not all forms of electronic games are sedentary; Some can provide significant physical exercise. The integration of this kind of game in esports tournaments can promote greater physical activity among gamers.

Third, media plays an important role in promoting physical activity through esports. Media coverage that highlights the physical aspects of esports, such as the physical training of professional esports athletes, can change public perception of esports. By highlighting the need for physical fitness for optimal performance in competition, media can help promote physical activity as an integral part of a gamer's life. It can also encourage amateur players to follow in their professional footsteps in maintaining good physical health.

Lastly, the potential of physical activity to improve performance in esports cannot be ignored. Many studies have shown that good physical fitness can improve concentration, reaction, and endurance, all of which are important in esports competitions. Therefore, by promoting physical activity as part of a training routine, esports practitioners can gain significant benefits in their performance. This not only benefits their health but can also increase their chances of success in competition, creating a positive cycle where physical fitness and achievement in esports reinforce each other.

4. CONCLUSIONS

From this study, it was possible to identify the influence of Esports on the promotion from the activity physical It is leisure, like this as you several impacts positive It is negative effects on the lives of practitioners. In the context of promoting physical activity and leisure, there are four areas in which Esports can play a relevant role: new technologies, active electronic games, media, and the potential of activity physical to improve performance. Considering the indicators, it is essential to adopt strategies aligned with the activity physical, optimizing to the benefits in each one from them. To the new technologies emerge as facilitators in promoting physical activity, both in monitoring data and in integrating physical activity into them. Active electronic games play a motivating and playful role, contributing to the cognitive and physical development of users' skills. The media, covering traditional means of communication and the digital era, including influencers and social networks, represent a powerful tool in disseminating information about the practice of physical activity and its benefits. Physical activity, as a performance booster in Esports, provides several advantages for practitioners, contributing to the improvement of memory, information processing, attention span, cognitive state, and injury prevention. Like this, concludes what you Esports perform one paper crucial at promotion of

physical activity and leisure, providing countless benefits for the health, well-being, and performance of its practitioners.

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