

Features of Playing Esports Games and the Impact on Status of Students and Athletes

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Abstract

Esports represents the playing of organized and competitive video game play at the amateur and professional level, where it is associated with large financial rewards and earnings. In the modern world, it is a form of sport or entertainment, which attracts many spectators and participants, who are involved online or at large competitions, the possibility of watching "live" in sports arenas is provided. The competitions take place in the form of leagues and tournaments, they are sponsored, and the prize fund is growing every day and in the modern world it competes with the most popular traditional sports. Given that this is a relative novelty for the Croatian sports and social market, the purpose of this research is to analyze some features of esports to see and recognize its status and impact on the student and sports population. This paper aims to determine the relationship between the variables that are considered important for shaping esports and its impact on the student and sports population. Knowledge of esports was highlighted through general questions and through regression analysis of some features of esports.

Keywords: Esports; Games; Students; Athletes

Introduction

In the modern world we live in, digitization and new e-technologies have brought significant and accelerated changes in human life. Digitization is a new reality and a reality in all segments of society [1]. In everyday life, including in the life of athletes, the word "digitalization" appears more and more often [2]. Work, everyday life and communication have taken on a completely different form, where the changes are dynamic and radical, and have been reflected in sports by the development of new opportunities for entertainment and recreation, as well as new competitive sports. One of the most popular and fastest growing, especially in developed economies, is esports. Esport as a term derives and comes from the already existing concept of traditional sports. Sport in human culture has developed into more than a mere recreational content and now receives a predominantly competitive content caused by economic progress. As early as the ancient Olympic Games, there was a certain professionalization of sports, and it referred to people, i.e., athletes, who had certain predispositions to it. Sport today exists in two dimensions, one is of a recreational nature, while the other has a professional dimension, which implies that a person lives on the income he earns from playing a certain sport. How much and how and in which social population esports is developing in Croatia is the research question of this work.

The purpose of this research is to look at sport in its basic dimensions and influences, such as knowledge of the rules of the game, as well as the conditions and the way it develops in Croatia. For research and evaluation of the level of development, specific variables were set that lead to answers related to the level of development of esports in Croatia in the researched population. Therefore, variable research was set as the goal of esports and esports player research, namely: participants, free time, financial resources, equipment availability and access. The research hypothesis, as well as the expected results, are set as a claim that the degree of development, as well as the development of esports in Croatia, is at a lower level among the researched population compared to other developed countries.

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Esports

With the development of civilization, competitive sports appeared as one of its products, which went from rough and vulgar games without special rules to civilized modern sports (Elias & Dunning, 1986). As a rule, sport has a competitive character and connects the audience, fans and spectators. About the mentioned basic features of sports, esports within the framework of e-technology meets all the features of traditional sports disciplines, as well as their competitive character. Due to the popularity of modern technologies and video games among the younger population, competitions have developed in which many players want to measure and compare their abilities with other players. As a product of the above, there are organizations that have developed competitive systems to enable these players to compete [3]. Competitive esports are based on player activities on a specific interface with the help of digital technology. Sports competitions in esports take place in defined leagues and tournaments, and professional teams or individual players participate in them. In the last decade, esports has become one of the fastest growing entertainment industries with high audience growth [4]. The development of e-sports in Croatia lags modern advanced societies, although progress is visible, so today there are two large regional sports leagues in Croatia, namely the A1 Adria League and the Esports B League, which are currently the top competitions in which you can play more widely Croatian environment. A tournament called Dota Pit is held every year, while the big Dota 2 tournament is also the most popular esports tournament in Croatia. The main significance of the Dota Pit tournament is the popularization of the sport in the Croatian sports IT community.

There are currently around 385 million people watching esports (online or in stadiums) worldwide and this is predicted to grow to 589 [5]. Examples of this type of game are DOTA 2 and League of Legends. The question arises of shaping the characteristics of esports players. Since esports does not contain traditional elements of physical training and activity, there is still the problem of defining competitive video game playing as a sport [6]. The same problem of defining sport is also related to some other interesting sports games, such as chess or darts, which can be played today, and are played in the "e" form. Although playing video games is incomparable to traditional sports in terms of physical fatigue per unit of time, it is still not true that there is no physical investment that an esports player must make to be a professional [5]. The main characteristic of esports, and of esports players during playing and training, is long-term sitting, as well as the efforts that the body and brain endure from hours of standing in an upright position of the spine and arms. It is also important to point out that long-term looking at the monitor can result in vision damage, as well as electromagnetic radiation that can damage the player's health. This creates a need for organized occupational therapists, teams and trainers who take care of their fitness. Therefore, it follows that esports is conceived in a similar way to well-known traditional sports. Just like in traditional sports where there are followers of handball, football, volleyball, water polo, skiing, cycling, etc., so in esports there are followers related to game titles, such as "League of Legends", "DOTA2", "CSGO" etc. [7].

Each of these titles usually has its own loyal audience that follows the events within just one title. One of the esports genres is completely based on traditional sports. Considering the complexity of esports and its connection with traditional sports, it is more appropriate to define esports according to what esports does and how the expressive feature of this new concept will be found. The most important feature of esports is that we have opposing competitive players. The outcome and result of their game is completely determined in the virtual world for which electronic equipment is used. In esports, the main element of the game is the interaction of players who give commands through an electronic interface, so the result is achieved in virtual space. Viewers of esports content, unlike traditional sports, are closely tied to the use of computers and streaming services while watching esports content. In some countries, such as South Korea, television channels are dedicated to the daily broadcast of esports content. In Europe, this trend is less accepted. Most viewers watch esports content through popular streaming providers, including Twitch, YouTube, and Chinese streaming services Douyu and Huya [8]. During the end of the season and the final professional tournaments at the regional and world level, spaces and halls and stadiums decorated and adapted for sports are activated. They are physically filled with esports audiences. In traditional sports, depending on the sport and the audience, it is regular practice for the audience from a particular city to cheer on their sports team in a weekly competition at the stadium where the sports competition is held. A very similar feature is present in Esports. This feature is very important because it includes additional services, such as catering and hotel and other services, which achieve significant economic profit.

Development of Esports and Similarities and Differences with Traditional Sports

Esport was created in 1999, although the term itself was mentioned earlier. The first tournaments and competitions took place over a LAN connection in the 70s and 80s of the last centuries in high schools and universities. In the beginning, competitions were held by playing against computers, or bots created by video game manufacturers. In 1980, the World Championship for Space Invaders was held. However, esports became what they are when the Counter-Strike World Championship was broadcast and distributed. By allowing public viewing, they sent the gaming event to interested viewers, and since then the pressure on competitors and organizers has increased. Since then, competitions from almost every multiplayer video game have been held regularly, with the inevitable growth of prize pools awarded to participants and winners of esports competitions. Esports as a new sports industry does not function without a foundation [9], which is the video game industry. Where there has been a demand for a competitive scene where players can test their talents and the need to compete [10]. With the development of digital technology, the first tournaments and competitions appeared almost parallel to the first video games, although professional esports players are mentioned several decades later [11]. Every year, esports breaks previously set records, and the space for growth remains stable and connected to new generations growing up in a fully digitalized world. The first

appearance of the sport can be traced back to the creation of the first video games, such as Pong or Space wars [11].

In the United Kingdom at Oxford University in 1972, the first tournament was Space war with a prize in the form of a 28-year subscription to the globally popular Rolling Stone magazine [9]. The organizing committee of the 2024 Paris Olympics has been in talks with the International Olympic Committee (IOC) and various professional sports organizations to consider the possibility of including sports in the Olympic Games program. Considering the interest of the audience and the changes that are present in the globalized world, it is time to expand the concept of sport and its definition. Expanding the sport by accepting a new sport would make the Olympics more interesting and acceptable to the younger generation. The President of the IOC, Mr. X. Bach stated that there are two difficulties in presenting sport as an Olympic event. In his opinion, this requires a higher degree of restriction of violent types of games, but also the adoption of a global sports regulatory body [12]. With the development and availability of broadband Internet, more and more users have access to higher Internet speeds, which allows them to play more demanding games online with other players in real time [13]. Therefore, internet speed is a key factor in the development of video games and ultimately esports in modern society.

Athletes? The characteristics of an esports athlete differ from a traditional athlete. The traditional concept of an athlete is related to the perception of a well-prepared athlete with a muscular body. However, this is not what characterizes esports players. The claim says that both need training, strategy, teamwork, good reflexes and perseverance [14]. Like traditional athletes, esports take part in the training process with the help of professional teams, coaches and specialized staff for each competition. Therefore, the question arises, what are the basic sports characteristics of an athlete? Also, accordingly, the question arises, is esports a sport or is it entertainment and lucrative income of the modern age? The biggest difference between sports and traditional sports is physical activity, i.e., movement, but also physical and psychophysical readiness and stability. Claims say that there is almost no physical activity in esports, but this is not true [11]. It is necessary to convince the public that it makes sense to broadcast a specialized television program that would broadcast exclusively sports. So, the path to acceptance of sport as a new sport takes place through the Internet and TV industry. Given the available data in the literature and the high amounts of financial resources involved in esports, how is it possible that despite the large amount of money, esports still has strong opponents [8]. One of the causes is according to the available literature, the scandals that happened in esports related to doping state that professional esports players presented information about doping in the form of "Adderal". Along with doping, there have been suspicions of "the use of illegal technology". Illegal technologies include the use of "Hacks" (commonly called cheating in games) to create "Aimbots" (a computer-controlled character that mimics a player, a term sometimes used for people who cheat-use of Aimbot and/or Wallhack) giving an unfair advantage to the players who use them [12]. Therefore, anomalies present in all types of

sports are reflected in the domain of undesirable situations and unsportsmanlike behavior in esports. Experts in literature state that esports is a good combination stimulating online games and physically exhausting sports and that this is exactly what meets the needs of the coming modern generations.

Who Can be an E-Sports Player?

On general, anyone can participate in esports segments, but not everyone can become a professional esports player. Being good at the game is only part of the necessary abilities and skills and predispositions that make up the connections and abilities that will help you climb the competitive ladder. No, what limits can an individual player go to and what psychomotor abilities he should possess, is the question we are dealing with today. Observing the anthropological status of an individual, certain dimensions develop under the influence of external social and other factors of growth and development. Reflexes, reactions, cognitive dimensions, perception, speed, precision, rhythmic coordination, etc. are essential for successful esports players. Also, we must not ignore the conative dimensions (personality traits) which, as in classic sports, make a big difference between athletes and among esports players [13].

Research Part

The research is the product of the author's previous research on the subject, where, in addition to the analysis and research of the global esports scene, special attention was paid to the domestic esports scene. Many world organizations are based on the quality and success of Croatian esports players (such as "Perkz"), but unfortunately, we still do not have a developed esports team that could compete with larger organizations on the global stage. Esports in Croatia is still not close to affirmation and acceptance as such. The research analyzed and presented the level of use and interest in esports among members of 12 sports clubs and the student population from the area of the City of Zadar.

Subject and goal of the research

The subject of the research is to present some features and meanings of regression analysis for esports segments. The hypothesis of the research is the assertion that the degree of development, as well as the development of esports in Croatia, i.e., in the city of Zadar, is at a lower level among the researched population compared to other more economically developed countries. Also, explore the possibilities of its application in terms of playing sports video games within esports. The purpose of the questionnaire is to determine the level of consumption of esports among members of sports clubs and students in the city of Zadar.

Methods, variables and sample of respondents

Data collection was carried out based on a proportional stratified sample, since it belongs to the category of random samples and enables the assessment of the degree of reliability of the conclusions about the examined parameters. The research was conducted through a questionnaire through several basic questions to obtain an overview of the sample taken through basic statistical parameters. After conducting the survey questionnaire on the

basic questions, the second part of the survey was conducted, which refers to certain specifics important for playing video games (availability of IT and electronic equipment, free time and financial resources). Also, the regression results are presented as an example of the importance of the respondent's status following the previous variables and guided by the main criterion variable. All questions were analyzed. The aim of this work is to determine the relationship between variables, that is, to determine statistical dependencies and indicators. The regression analysis technique was used to determine the strength of dependence of individual variables because it is based on a regression model that analytically expresses and shows the connection of phenomena. The research is a product of previous research, and the sample is represented by members of sports clubs (26 coaches, athletes and sports workers) and 72 students at the University of Zadar (N=49). More men (92%) than women (8%) participated in the research. Those aged 20 to 22 prevail (85% of respondents)

Result and Discussion

The main part of the research relates to general questions and was conducted through a survey. The first question was to determine how many respondents play any of the esports games.

Table 1: Results of the question-How familiar are you with the term “esports”?

Completely Not Familiar	Partially Not Familiar	Neither Familiar Nor Nonfamiliar	Partially Familiar	Completely Familiar
2%	7%	6%	13%	72%

Table 2: Results of the question-How long have you been playing video games within esports?

Up to 2 Years	3-5 Years	More Than 5 Years
6%	84%	12%

Data processing

The second part of the research is related to multivariate data analysis-regression analysis. The results of the research show the criteria for evaluating the impact on playing video games: Availability of electronic equipment, free time, financial resources explain 68.7% of the variance in the overall comprehensibility of sports evaluation criteria ($R^2=0.687$, $F(89) = 29.156$, $p=0.000$). Furthermore, the availability of electronic equipment ($\beta=0.078$, $t=0.901$ & $p=0.000$) and financial resources ($\beta=0.352$, $t=3.412$ & $p=0.000$) are shown to be significant positive predictors of overall comprehensibility, while leisure time ($\beta=0.382$, $t=2.576$

The answer was that as many as 88.6% of respondents play an esports game. The second question was about the interest in playing traditional sports and playing esports. 65.5% of respondents are more interested in playing sports, whether recreational, amateur or professional, while 34.5% of respondents say that playing esports is more interesting to them. Then, the next question related to the respondents' knowledge of the concept of sport, and the answer was mostly: “I know completely”, which leads to the conclusion that the respondents are sufficiently familiar with the aforementioned. It is also visible in Table 1-“How familiar are you with the term “esports”?”. The largest number, 72% of respondents, believe that they are: “completely familiar”, followed by 13% that they are “partially familiar”. While a significantly smaller percentage of respondents, 6%, consider that they are “neither familiar nor unknown”, 7% of respondents consider that they are “partially unfamiliar”, and only 2% of respondents consider that they are “not fully familiar”. Then, there was the question that referred to the period of playing video games within the esports (Only for respondents who play esports). The answer (Table 2) showed us that respondents have been playing esports for 3-5 years (84%), then some of them play more than 5 years (12%) and some of them play up to 2 years (6%).

& $p = 0.370$) doesn't show significant contribution (Table 3). The importance of “availability of IT and electronic equipment” could be argued as a key factor for starting sports activities through the type of set criteria. Also, it's not just any kind of electronic equipment. Electronic equipment must fall under high and modern technology to follow the trends. Due to constant updates, the system requires frequent software and especially hardware upgrades. Every year emigre companies present new eigrs and their new requirements according to market monitoring. For example, playing eigr through the prism of fun at home will be easily implemented through minimal requirements, while for more serious gaming it is necessary to have hardware compatible with the maximum requirements of the game. If a player plays video games with minimum requirements, it is unlikely that they will succeed in the world of esports, because they will not be able to keep up with all the upcoming titles and upgrades of the existing ones (Table 4).

Table 3: Regression analysis of the influence of individual elements as a predictor of the overall impact on playing video games.

	B (Unstandardized Coefficient)	Beta (Standardized Coefficient)	t	Sig.
Availability of IT - electronic equipment	0.094	0.078	0.901	0
Leisure time	0.037	0.382	2.576	0.37
Financial resources	0.037	0.352	3.412	0

Table 4: Regression analysis-Respondents' work status and participation in esports.

	B (Unstandardized Coefficient)	Beta (Standardized Coefficient)	t	Sig.
Student	1.75	0.264	3.1	0.003
Professionally employed in the association	0.149	0.256	3.2	0.002

The athlete who has status in the association	1.84	0.36	3.836	0
An amateur athlete	0.292	-0.134	-1.255	0.213
Unemployed status	0.156	0.311	3.593	0.001
Part-time athlete	-0.132	0.119	1.105	0.273
Part-time sports employee	0.012	0.126	1.853	0.068

Also, playing on minimum requirements often brings a slower reaction in the game itself, not because of the “inability” of the player, but because of lagging (popularly known as lag in gaming). Players mostly complain about lower FPS (frame per second) due to worse graphics cards and processors. Newer eigers require more gigabytes on the graphics cards themselves, and cannot be upgraded like motherboards, but a completely new graphics card must be purchased. In this way, a player can lose matches due to older electronic equipment. “Financial resources” are consistent with the variable described above. Buying new electronic equipment meets the requirements of the games that the player plays. A certain budget is required. A player must constantly invest in equipment if he wants to progress. The players are predominantly a younger population, as we can see from the example of this paper that 85% of respondents are aged 20-22. This population does not have enough financial resources for constant technical.

The significance of the “student” variable is expected because they are the ones most involved in playing any type of video game. New generations were brought up with modern technologies, so they are an unavoidable dimension of everyday life. The general results of the survey were presented, which show that they are more in favor of classic sports, but the positive influence of video games has certainly been proven through various studies. Research has shown that eigre contributes to the development of logical thinking, problem-solving skills and the improvement of critical thinking. Children also develop better hand-eye coordination and precision. E-games can greatly help in improving reading, language learning and arithmetic [14]. The relationship between the question about the frequency of playing and the question about the assessment of their own mental and physical abilities shows that all the examined students, no matter how often they play, rate their abilities better than average. There are no relationships that would indicate significant differences in the abilities of those who play and those who do not [15-18]. “Professionally employed in the association” and “Athlete who has a status in the association” contribute to the importance of the regression analysis. Since it is a relatively young population as a sample of respondents, and according to the general survey, it can be concluded that the respondents often play eigre in their free time. We often witness advertisements on the covers of various video games, such as FIFA 21, FIFA 22, NBA 2K22, etc. The advertisements mostly feature young professional athletes who mostly play e-games in their free time [19]. They have the main influence on the rest of the population. Since athletes have a lot of free time during the break from training, it is assumed that they spend a lot of time playing e-games in their free time, according to the survey and other claims. According to the sample of respondents, the “unemployed status”

is also shared by the younger population, who spend most of their free time playing e-games [20].

Conclusion

Esports represent a potential flywheel of our society in the field of sports, entertainment and economy. The aim of the work was to determine the relationship between the variables that are considered important for the structure of esports, which represent new concepts in our social environment in the prism of competitive play, but also of free time. Traditional sports are increasingly competing with e-sports on a global level through organized competitions in the form of tournaments or leagues. In Croatian esports, to understand the current situation, this research tried to bring esports closer to society (users) and potential users. Based on the conducted research and the results of the survey questionnaire filled out by the members of the sports associations and the student population from the city of Zadar, several topics were opened inspired by the questions from the constructed survey questionnaire. The research substantiated the questions and established the fact that many respondents know the concept of esports and that they have been playing video games for several years, primarily in their free time. The population that plays and understands esports are students, among whom the majority are athletes and the unemployed. Also, the results show that esports on the Croatian market is in its infancy and is gradually developing. There is significant potential for its spread in society through the target population of users in the future.

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