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Master's Dissertation

Psychosocial outcomes of Esports players in Portugal

Master's Dissertation presented to Universidade Católica
Portuguesa for the obtention of Master's degree in
Psychology of Wellbeing and Health Promotion

By

Pedro S. Santos

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Under the guidance of Professor Doctor Rita Francisco

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Abstract

Esports is the term used to describe organized and competitive videogaming, meaning “electronic sports”. This study focused on the psychosocial characterization and description of Esports players in Portugal. Specifically, the main objectives were to characterize the motivations, feelings and experience of these practitioners, while at the same time measure their perceived stress, psychological wellbeing and social connectedness levels. Being the first study on Esports Psychology in Portugal, an exploratory, mixed-method approach was chosen, to gather as much data as possible about the population. A sociodemographic questionnaire and a specific questionnaire with questions about Esports was used, as well as three different psychological instruments for the three principal variables in study: the Perceived Stress Scale, the Flourishing Scale and the Social Connectedness Scale-Revised. The results go in line with the international literature, with participants having a moderate-high level of perceived stress, high levels of social connectedness and high levels of psychological wellbeing. Both high levels of social connectedness and lower levels of perceived stress predicted participants’ psychological wellbeing, explaining 60.9% of its variance, something that goes in line with the answers given on the qualitative questions and the literature. A thematic analysis was made to these answers on Esports, revealing the perceptions about the advantages, disadvantages, and motivations that this practice entails, with participants reporting their friends and social groups, the playing itself and the competitive aspects as the most rewarding parts of participating in Esports competitions. Limitations and suggestions for future research are pointed, such as broader experimental studies, with a bigger sample size and different variables.

Keywords: Esports; psychosocial outcomes; stress; social connectedness; psychological wellbeing

Resumo

Esports é o termo usado para descrever a prática organizada e competitiva de videojogos, significando “desportos eletrónicos”. Este estudo centrou-se na caracterização psicossocial e qualificação dos jogadores de Esports em Portugal. Especificamente, tentámos caracterizar as motivações, sentimentos e experiências destes praticantes, e ao mesmo tempo medir os níveis de stresse percebido, bem-estar psicológico e níveis de conexão social. Sendo o primeiro estudo sobre Psicologia dos Esports em Portugal, optou-se por uma abordagem exploratória e de métodos mistos, para recolher o máximo de dados possíveis sobre a população. Foi utilizado um questionário sociodemográfico e um questionário específico com questões sobre Esports, além de três instrumentos psicológicos distintos para as três principais variáveis em estudo: Escala de Stresse Percebido, Escala de *Social Connectedness*-Revista e a Escala de Florescimento. Os resultados estão de acordo com a literatura internacional, com os participantes a apresentar um nível moderado-alto de stresse percebido, altos níveis de conexão social e altos níveis de bem-estar psicológico. Alto nível de *social connectedness* e baixo nível de stresse percebido foram considerados preditores significativos do bem-estar dos participantes, explicando 60.9% da sua variância, o que vai ao encontro das respostas dadas nas questões qualitativas e da literatura. Foi realizada uma análise temática às respostas abertas sobre os Esports, revelando as perceções dos participantes quanto às vantagens, desvantagens e motivações que esta prática acarreta, com os participantes referindo-se aos seus amigos e grupos sociais, ao jogo em si e aos aspetos competitivos como sendo as partes mais gratificantes da participação em competições de Esports. Limitações e sugestões para pesquisas futuras são apontadas, nomeadamente a criação de estudos com metodologias experimentais numa população mais alargada e com diferentes variáveis.

Palavras-chave: Esports; indicadores psicossociais; stresse; conectividade social; bem-estar psicológico

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Introduction

Esports- what is it? This dissertation elaborates on an emerging topic for science in general, and psychology in particular. Although some international studies have been developed on the subject, in Portugal the subject of Esports practice and practitioners has been underwhelmingly studied. So what is Esports and why should we pay attention to them? Esports (that can also be referred to as electronic sports, e-sports, or eSports) is a form of competitive play using video games. According to the Federação Portuguesa de Desportos Eletrónicos (FPDE, 2016), Esports are organized competitions, composed of individuals or teams, which are disputed in computers, gaming consoles, or other electronic devices. This concept differs from casual gaming, in the fact that gaming is the act of an individual, regularly or sporadically, incurring on playing a videogame. Gaming can be defined as the act of playing electronic games, whether through consoles, computers, mobile phones, or another medium altogether. Gaming is a nuanced term that suggests regular gameplay, possibly as a hobby. Esports on the other side is a branch of gaming that is characterized by having an intrinsic organized and competitive nature, with the participants being teams or individuals. One can, therefore, say that Esports is always a gaming activity, but not always is gaming considered an Esport.

According to Bányai, Griffiths, Király, and Demetrovics (2019) in a systematic literature review on the psychology of Esports, the three main areas of focus for scientific literature, regarding Esports, are the process of becoming an Esports player, the characteristics of Esports players such as mental skills and motivations and the motivations for spectator consumption. There are many studies conducted on this subject, most of them focused on the distinction and comparison of these players to traditional sports players, followed by an analysis of the motives and habits of spectators. The most disregarded theme is the players themselves, their point of view in the subject, their internal motivations and feelings, as well as their opinion in whether or not they should be considered athletes.

The present study was designed with the goal of filling the lack of literature on Esports players psychology, and as a mean to characterize their goals, troubles and motivations for this practice. The spectator aspect was disregarded, focusing exclusively on the description and exploration of Esports players psychosocial outcomes and their opinions on their daily life as well as the professional athlete status argument.

State of the art

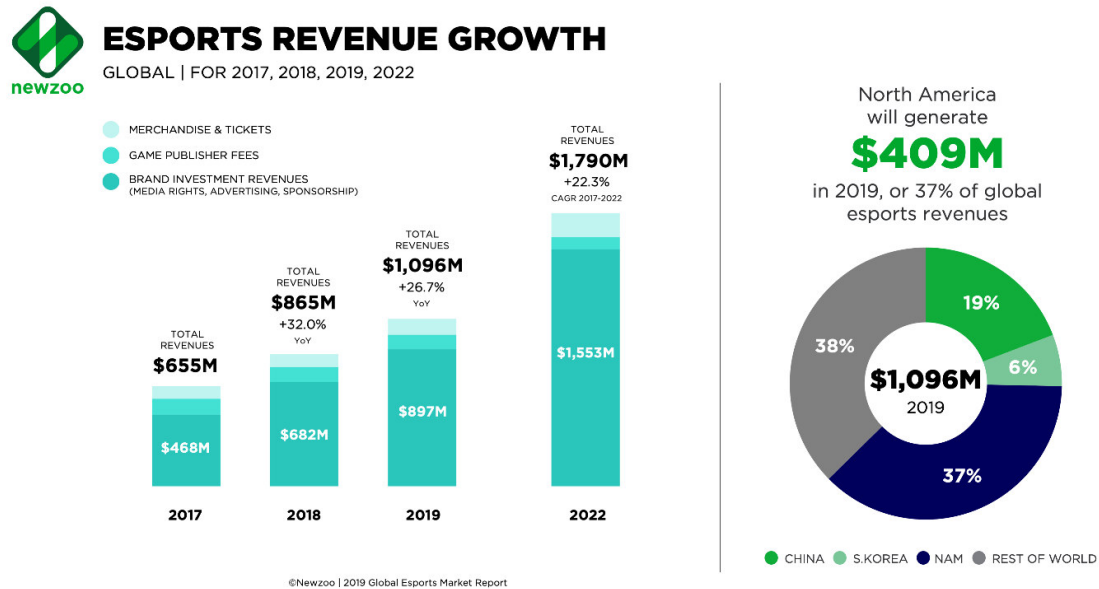
Esports are old and new at the same time. The first competitions go back to the early 60's while the global phenomenon status as only set in the last few years. In a very comprehensive review, "History and Analysis of eSport Systems", Snively (2014) describes this phenomenon in great detail. What started out as an arcade machine buzz and competition, went on to become a billion-dollar industry with major brands and investment. Some of the first Esports leagues were founded in the late 1990s including the Cyberathlete Professional League (CPL), the Professional Gamers League, and Quakecon. Games like Quake, Counter-Strike, and Warcraft were featured in these events. The Red Annihilation tournament took place in May of 1997 and is considered by many to be one of the first true Esports competitions of the modern format. This event was viewed by spectators in person and online, while receiving news coverage from newspapers and television networks. Dennis "Thresh" Fong (still to this day connected to Esports and an active competitor) earned the win, etching his place into history and earning the tournament's grand prize; a Ferrari 328 GTS previously owned by Quake programmer, John D. Carmack. Fong was from this day considered as the first paid professional gamer (Wolf, 2008).

Ever since, from Seoul, South Korea (considered the epicenter of modern Esports) to Portugal and most other industrialized countries, the phenomenon gained worldwide recognition and adherence, becoming a billion-dollar industry that keeps growing each passing day. According to NewZoo (the leading global provider of video games and Esports analytics), the numbers are big and are getting bigger each passing year, with the industry steadily taking over the mainstream culture. Global Esports revenues will grow to \$1.1 billion in 2020, a year-on-year growth of +15.7%, up from \$950.6 million in 2019 (Figure 1).

Globally, the total esports audience will grow to 495 million people in 2020, a year-on-year growth of +11.7% from 2019. On attendance records the 2016 LoL (League of Legends) World Championships brought in a staggering 43 million viewers, with a peak of 14.7 million viewers watching concurrently at one point. These numbers were dwarfed by the event in 2017 which had over 60 million people. Numbers like these outshine viewership totals of the championship events of two of the United States' biggest sports leagues, the MLB (Major League Baseball) and the NBA (National Basketball Association).

Figure 1

Newzoo Esports revenue predictions (Newzoo, 2019)



While the League of Legends World Championships is an indicator of the growth of Esports as a spectator sport, the annual Dota 2 tournament “The International” is a testament to how massive the sport has become on the financial side, with the record for the biggest prize pool in all of Esports being broken every year since 2014. The prize pool has ballooned from \$5,028,308 in 2014 to over 35 million dollars in 2019, including an over 10-million-dollar prize for the 1st place team (The International, 2019).

Portugal and abroad: Organizations and Esports scene

Nationally there is a huge boost in popularity and adherence to the Esports activity, both for players and viewers alike. Although public awareness has not quite kept up with this rising tide, some major events have already taken place in Portugal. Examples of this are the Moche XL Esports competition at Altice Arena, the XL Games World and Lisboa Games Week at FIL (Feira Internacional de Lisboa), among other events in smaller venues. The biggest sports organization in Portugal, the FPF (Federação Portuguesa de Futebol) has a parallel endeavor on the Esports scene, where professional players compete on the FIFA videogame, either individually, or

representing national football teams. The only national professional football team without an Esports team currently is FCP (Futebol Clube do Porto) (FPFEsports, 2020), with all others from the 1st, 2nd, and most of the 3rd football leagues having a representation on FIFA Esports.

Regulating and promoting the Esports scene in Portugal are 2 associations. These are FEPODELE (Federação Portuguesa do Desporto Eletrónico) and the FPDE (Federação Portuguesa de Desportos Eletrónicos). The main focus of both these organizations is to elevate Esports to the same level as traditional sports, with athlete status and governmental recognition. Simultaneously these institutions have the task of regulating the Esports activity, creating standardized norms for the various parties involved (players, trainers, teams, etc) and promoting and overseeing events and competitions. The statures of these federations follow the same guidelines as traditional sports federations, with a board committee and a council, as well as antidoping rules and member behavior directives. The FPDE has also created a member committee tasked to bring forth the elevation of Esports to federated sport by the Portuguese government, which is also the group tasked with the liaison with IeSF (International Esports Federation). The IeSF was created in 2008 in South Korea and is at the forefront of Esports promotion and moderation, having created the Global Esports Executive Summit going on its 4th edition. Very recently the World eSports Association (WESA) has also been assembled as a result of joint efforts between industry-leading professional esports teams and ESL, the world's largest and oldest Esports league.

Science of Videogames

One of the biggest debates in recent times on scientific literature, meetings and even in the global political and media spheres, has been whether videogames are a positive or negative influence on the psychological makeup of people. From very young children up to elders, many studies have been conducted on numerous dimensions and psychological factors.

In contrast with Esports, there have been some videogame studies done in Portugal. An example is Lopes (2012) work with university students about their perception of videogames as a good tool for the promotion of competencies, finding that most students believe these type of platforms are a good tool for promoting language, cognitive and educational skills. Contrastingly, however, Isabel & Lopes (2018) found a

relationship between higher flow engagement (the higher the flow state (Csikszentmihalyi, 1990 cit in. Lopes, 2018), the higher the engagement in the game) and negative affect or subjective wellbeing. Another such study, however, conducted with children from 10 to 15 years old, showed no negative effects from videogame practice on children's school grades (Marques, Duarte da Silva, & Marques, 2011). One can argue that the national research on videogames is scarce, while on Esports specifically is at the time of this work, non-existent, as far as we know.

Internationally, however, many comprehensive studies have been conducted on videogames. A systematic review conducted by Pallavicini, Ferrari and Mantovani (2018) singled out 35 studies focused on cognitive and emotional traits on adults, specifically young adults. Overall, most findings showed evidence of benefits from non-commercial videogames, commercial brain-training programs, and also commercial videogames. The more prevalent skills and traits improved by the games (in various platforms-computer, smartphone console, etc) were mental spatial rotation, task-switching/multitasking, processing speed/reaction time, memory, positive and negative affect, state-trait anxiety, social stress, among others. On another comprehensive review of over 200 research papers, Johnson, Jones, Scholes and Carras (2013) have found a positive link between videogames and wellbeing according to the Flourishing Mental Health framework (Keyes, 2002 cit in Johnson et al. 2013). The key findings from this study were the increase of social and emotional benefits, where nongamers had very poor mental health correlates. There were mild negative behaviors and outcomes on excessive gamers, such as anxiety, insomnia, social disfunction and general mental health (Johnson et al., 2013). Besides these, the convergent themes retrieved from the reviewed papers were positive emotional impact, healthier relationships, better social capital, and better self-esteem levels. In a month-long controlled study, Russoniello, Fish, & O'Brien (2019), showed the power of a basic design smartphone-based game "Plants vs Zombies" in reducing treatment-resistant symptoms of depression (TRDS), while also designing a psychophysiological method for measuring the efficacy of videogames in reducing TRDS. Many other studies can be found linking videogames to improvement of health issues such as depression, anxiety, isolation, emotional imbalance, among others (Johnson et al., 2013).

Not all findings suggest a positive impact from videogames, however. As stated by Nuyens, Kuss, Lopez-Fernandez and Griffiths (2017) in a review of 18 studies,

problematic video gaming can lead to a varied range of impaired cognitive abilities, such as time perception, inhibition, and decision-making. Also to test problematic videogame play Sprong, Griffiths, Lloyd, Paul and Buono (2019) compared 2 psychometric evaluation tools, the Video Game Functional Assessment-Revised (VGFA-R), and Internet Gaming Disorder Test (IGD-20) with each other and with the recent DSM criteria for Internet Gaming Disorder (IGD) (DSM-5 Diagnostic and Statistical Manual of Mental Disorders, 5th Edition; American Psychiatric Association, 2013). The authors validated the reliability and validity of the instruments as well as the construct, and singled out escapism from real life (depressive states and other negative factors) as the best predictor of problematic or excessive play. Various critical aspects have to be considered when analyzing and reviewing Esports or videogames against psychological constructs, since the DSM as added in 2018 the “Internet Gaming Disorder” as a condition (not a formal disorder), warranting further study, with the following criteria as definition: “*A preoccupation or obsession with playing Internet games; Experience of unpleasant symptoms when prevented from playing Internet games (withdrawal); The need to spend increasing amounts of time playing games (tolerance); Unsuccessful attempts to reduce or stop playing games; Loss of interest in previously enjoyable activities or hobbies as a result of gaming; Continuation of the overuse of Internet gaming, despite knowledge of the negative impacts upon functioning; Deceiving others regarding the extent of gaming; Relying on the use of Internet games to relieve anxiety, guilt or other negative emotions; Jeopardizing or losing a relationship or academic or work opportunity because of participation in gaming*” (Petry & O’Brien, 2013). The most recent iteration of the ICD (International Statistical Classification of Diseases and related health problems), the ICD-11, created by the WHO (World Health Organisation), also includes Gaming Disorder as a discrete category of disorder (WHO, 2018). These conditions in both the ICD-11 and the DSM-5 are refuted and critiqued in various papers from experts on the videogames psychology field. Most notably Kuss, Griffiths and Pontes (2017) have argued that this categorization brings more confusion than clarity to the current comorbidity evaluation and diagnosis, as well as a lack of specificity due to the heterogeneity of conditions and the criteria used to evaluate them. In accordance with this view, Nielsen & Karhulahti (2017) view a specific problem in the coexistence of Esports and the IGD. As pointed in their critique paper, the 9 criteria used for diagnosing IGD in the DSM are very similar to the characteristics that make up a top-tier Esports professional (or an athlete from any

other sport). According to the authors, these diagnostic criteria aren't comprehensive enough to distinguish problematic play from competitive play, leading to dedication being misinterpreted as addiction. Furthermore, they suggest new research on the matter, as well as a conceptualization of Esports players more similar to professional poker players. This distinction has been made long ago in scientific studies and guides, enabling the segregation of these professionals from gambling addicts. One other important factor studied by (Triberti et al., 2018) is the time spent playing vs hours of the day to play. Agreeing with the debate that diagnostic criteria from the ICD and DSM are insufficient, these researchers tried to analyze the hours of daily consumption of 133 participants, including Esports professionals. Besides predictable results linked to age, people with the highest score of IGD were directly linked to morning weekend play, a time usually associated with other leisure and socially linked activities. This is an important finding since many Esports professionals report seeing these extra time slots as the time to further distinguish themselves from the competition (the Esports slang for this is "grind"- extended periods of overexertion of play), while others report that weekends and other non-work related times are good for a break from practice and training. The implications of the addiction definition and gaming disorders are further discussed in the method section of this study.

Science of Esports

Internationally Esports is a growing phenomenon, and science is consequentially accompanying the study of this activity, as Reitman, Anderson-Coto, Wu, Lee and Steinkuehler (2019) point out in a literature review from seven areas of science. Since 2002 to the present, Esports research went from a non-existing field to a research crescendo in areas like economics, law, neuroscience, and others. For psychology still, the most studied area in later years has been videogames in general, not the professional and competitive side of Esports. Nonetheless, one of the forefront scientists in the field of videogame psychology, Mark D. Griffiths, has also shifted some of his focus from videogame addiction to the emerging field of Esports. In a systematic literature review, Bányai, Griffiths, Király and Demetrovics (2019) have singled out three main concerns on Esports psychology studies. The process of becoming a player, the player's psychological aspects in themselves and the spectator's psychological profile and motivations. Firstly, one must consider the first stage of becoming a professional Esports player. Griffiths has done extensive research on the motivations, profile and

cognitive abilities of casual gamers, professional players and gambling addicts, as well as professional poker players. In one specific paper Griffiths (2017) had already concluded that the motivations to play videogames were different between casual gamers and professional players. While the most prevalent gaming motivations are arousal, challenge, competition, distraction, fantasy, coping and social interaction, professional players value interaction and competition the most. Seo (2016) has investigated how Esports practitioners undergo an identity transformation to acquire a professional gamer identity. The author defined professional Esports as a serious leisure activity, that can be defined as an medium activity between casual leisure and work, with good results, such as better levels of identity development and self-concept. On this study, Esports players claimed that the main elements that attracted them to seek a career in Esports were the “celebration of the mastery of skills, the pursuit of self-improvement, and the importance of fairness, equity, and mutual respect (i.e., via online/LAN tournaments, formal institutional rules, and the norms and codes of Esports)” (Seo, 2016). These players were seeking a professional career, and this allowed them to experience higher social recognition, better levels of self-esteem and a sense of accomplishment. Even though Esports is a serious leisure activity for many or even a full-time occupation for some select few, professional players still valued the activity as fun and self-motivating. Another study focused on Esports players’ motivations investigated different aspects of gaming motivations among Esports players and casual gamers, and the author highlighted why professional gamers play video games, and how it satisfied their life goals (Martončík, 2015). The author implied that the life goals (i.e., intimacy, affiliation, altruism, power, achievement, diversion) of Esports or casual players, solo or team players, clan/team-leaders or non-leaders can be different based on the GOALS questionnaire that assessed general long-term life goals (Pöhlmann and Brunstein, 1997 cit in. Martončík, 2015). Different motivations, such as affiliation or fun were referenced by the Esports players and the casual players respectively, with Esports players developing better relationships through membership of a team and participating in LAN championships. Furthermore, some professionals who were leaders in their teams also satisfied their need for power by holding a game leader position compared to the non-leader players.

“Sport or not?”

One of the most debated topics in literature is the definition and comparison of Esports to traditional sports. To explain this ongoing debate, one must understand various definitions and points of view on the matter. Each dictionary and organization define sport on their own accord, meaning there is no one-fit-all definition of sport since for all intents and purposes there is no higher entity governing sport. The broader and more accepted definition, is by the SportAccord (former General Association of International Sports Federations “GAISF”) an umbrella organization for all international sports federations, that has defined sport as *“an activity having an element of competition, that is in no way harmful to any living creatures, that does not rely on equipment that is provided by a single supplier and doesn't rely on any “luck” element specifically designed into the sport”* (SportAccord, 2009). Furthermore, they have categorized the type of sports accepted for the association in 5 categories: primarily physical, primarily mind, primarily motorized, primarily coordination and primarily animal-supported. Along with these defined rules, SportAccord has also stated the common-sense implications of sport in the definition *“A common theme for all sports is that one plays to win (“competition”) and, in order to win, one must have a high concentration, fighting spirit, quick reflection, and strong will. The other criteria further require that the sport contains elements of fair play, discipline, universal rules, ethical code, training, competition, and performance”*. One of their branch organizations the IMSA (International Mind Sports Association) is responsible for sports such as chess, card games, “mahjong”, “Go” and others. These so-called “mind-sports” are one of the biggest arguments most parties use in favor of the Esports elevation to sport, due to the removal of physical activity and athleticism from the sport definition equation, following the SportAccord framework. In an analysis of some of these more consistently mentioned characteristics of a sport definition Jenny, Manning, Keiper, & Olrich (2017), have found that Esports fit in with all of the conventional sport characteristics that most entities follow, like play/competition, organization by rules, requirement of skill, and a broad following. However, they have concluded there is still an element of physicality and institutionalization missing. Jonasson & Thiborg (2010) also elaborate on a commonly academically accepted definition of sport and argue that Esports fulfill all the needs of a sport, leaving the physicality aspect open for debate since there is no physical motion without an intellect to guide it. Chess is the most referred example for comparison by these, and other scholars. Although not considered

an Olympic sport, chess is considered a mind-sport. According to Pluss et al. (2019) it is one of the most studied sports, or subjects for that matter, in the field of expertise, being that chess is a perfect base for analysis, being complex enough to have a wide learning curve, but obeying strict and immutable rules. The authors argue that Esports fit perfectly on the study of the expertise field and the three stages of capturing human expertise, due to the informatic nature of the activity (Pluss et al., 2019). Two of the first scholars to theorize Esports were Hemphill and Wagner, leading to the rise in scientific literature on Esports. Hemphill (2005) coined the term “Cybersports”, as being alternative sport realities where “athletes” are electronically extended in a digitally represented sporting world, while Wagner (2006) tried to define Esports as an area of sport where there is training of mental or physical abilities with the use of technologies. Taylor (2012) showed, that the rules of Esports tournaments, competitions, games, judging, and broadcasting can be similar to traditional sports, and professional gamers can be compared to the requirements and practice of the athletes of professional sports (i.e., training, practice, and physical and mental states of athletes).. On a different level of the “sport or not?” debate there is the scope of what management model Esports should follow. The position defended by Funk, Pizzo, & Baker (2018) is that Esports must be compared and recognized as a sports entertainment industry (e.g professional wrestling entertainment), therefore having the same management, support and recognition. In pair with the questions raised by (Cunningham et al., 2018), both these authors see Esports fitting within the realm of sports management. Surpassing the question of whether Esports is indeed a sport, it is hard to deny that the model of management that most similarly fits it, is sports management. As discussed by the authors Esports represent a form of sportification, and the association among Esports and various outcomes, including physical and psychological health, social well-being, sport consumption outcomes, and diversity and inclusion should not be disregarded (Cunningham et al., 2018).

Besides the referred constructs, the economic, cultural and social basis of Esports is better explained by the models of sports management aspects (training sessions, teams, coaching, sponsors, tournaments, etc) than any other conceptual model. According to the reflection of Heere (2018), one way of circumventing the “sport or not” debate is through “sportification” which means to either view or regulate a non-

sport activity in such a way that it resembles a sport or add a sport component to an existing activity in order to make it more attractive to its audiences (Heere, 2018).

One of the most comprehensive systematic reviews on Esports psychology was conducted concurrently with this study. Following the golden method for systematic reviews, the PRISMA-P guidelines, Pedraza, Musculus, Raab and Laborde (2020) analyzed 52 studies since 1994 on the psychology of Esports and sports performance. Like previous studies, made on the subject, there is a positive link between cognitive skills, mental performance, and the practice of Esports. However, different studies show different enhancements to the players cognitive performance, due to different types of videogames being studied. The authors have concluded, with the review of previous meta-analyses, and with their own review, that future studies need more rigorous methodological designs and an incorporation of the sports psychology approach, in order to fully unveil the psychosocial impact of high level Esports practice on the players, teams and other professionals, across the many different videogames and gaming platforms available today.

The Present Study

The significance of this study is evident when one analyzes the international studies conducted in the area (literature reviews, philosophical debate, etc). There are, however, very few correlational empirical studies on the profile of international Esports players, and very few studies conducted in Portugal. Besides the scientific relevance this study encompasses, there is a very fast-paced growth of Esports relevance (as well as videogames/casual gaming) in the Portuguese economy, leading to an urgent need for more scientific knowledge on the matter. Therefore, the research question guiding this study, due to its exploratory nature, was deemed has: “What are the psychosocial outcomes of Esports practitioners in Portugal?” By reviewing the key points of Esports literature to date one can make three basic assumptions to guide this study:

- Since there is a fundamental difference between casual gaming and Esports practice (necessarily competitive and organized), one can categorize the Esports players population has people who either have their main professional occupation as Esports, their main source of income coming from Esports or that regularly engage in Esports tournaments.

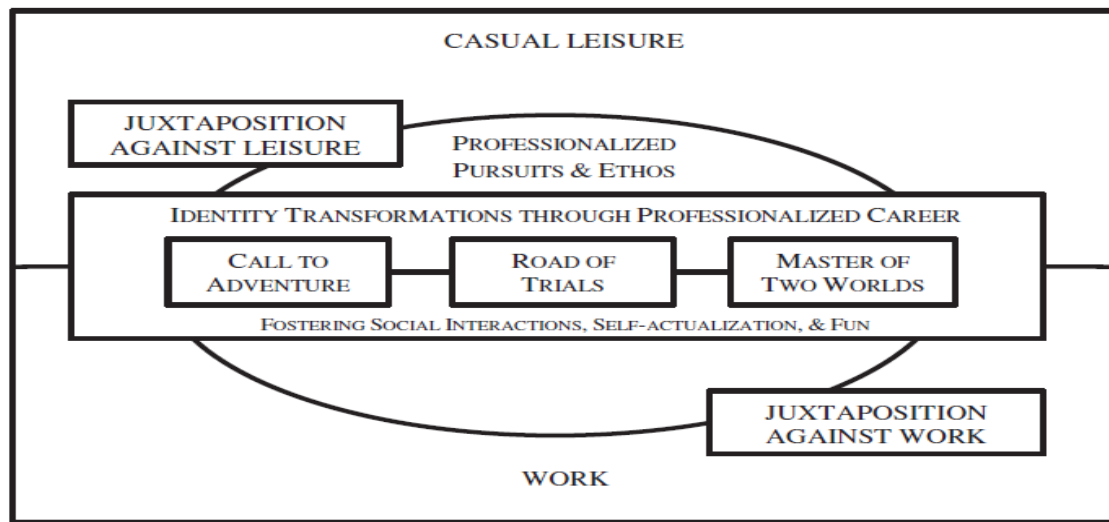
- It is incoherent and inadequate to analyze Esports professionals or aspiring practitioners under the “Internet Gaming Disorder” criteria proposed by APA and WHO, since the definitions of addiction and commitment are still very blurred in both those definitions.
- Regardless of being considered professional athletes, (or federated sports practitioners by the IPDJ in the case of Portugal) Esports players are subject to high psychological, physical and social demands in their pursuit of expertise and victories. These conditions have different outcomes that need further research so we can have a better understanding of the psychosocial impact of Esports, as either a full-time job or serious leisure activity.

Firstly, the rationale behind the population choice refers to the work of Seo (2016) that theorizes the journey from casual gamer to a professional Esports player as a journey with multiple fluid stages (Figure 2). One can, therefore, reckon that if a given individual is not in the immediate present a paid/sponsored professional Esports player, he might possibly have been or become one eventually. This is the main differentiator from a casual gamer who has no ambition of competing against other players. Second, when reviewing the IGD addiction arguments, Griffiths (2017) critiques this categorization, since the motivations for playing and the life impact of the activity change when going from leisure gaming to serious leisure or a professional level. Griffiths compares Esports practitioners to professional poker players or even “workaholics”, people who may have severe psychosocial impacts in their lives from their monetary revenue activities, but can’t be conceptualized as addicts since the excess of their gaming or work is a by-product of their job or profession.

Finally, by reviewing the many studies conducted on the conceptualization of Esports as a professional sport, it becomes truly relevant to gather the opinion of the players on the matter of federated sport status, as well as other relevant scientific data from this population.

Figure 2

Seo's framework for the "journey" of an Esports practitioner (Seo, 2016)



Following these premises, the main objective of this study is to explore the psychosocial characteristics of Esports players, namely their psychological wellbeing, the stress levels that they perceive in their daily lives and the level of social connectedness that they experience. Also, as a secondary objective, there is relevant anecdotal and logical evidence to ascertain the opinion of Esports players on whether they should be considered professional athletes or not, their main motivations for playing and the benefits/disadvantages that the activity brings to their life. The sociodemographic data of Portuguese players is another important point for studying due to the low amount of evidence and studies conducted in Portugal.

Method

This study's design was based on a mixed-methods approach focusing on a cross-sectional inquiry in a non-artificial scenario, with a voluntary and non-probabilistic snowball sampling method. As a mixed-method study, not only are the results buffer and more substantiated, but one can compare the quantitative data to the existing literature while in the same screening gathering the opinions and thoughts of the participants on important matters concerning themselves.

Participants

As discussed above, there are various definitions of what an Esports player may be. Although the professional player scene in Portugal is rising, it still unsubstantial compared to that of other countries or compared to the number of national players who are considered top tier in their respective Esports, but have another job as a mean of subsistence. Alongside these types of players, there is an ever-increasing number of gamers who have the ambition of making it to the competitive scene, therefore adding to the pool of potential participants that meet the requirements for this study. This led to the inclusion criteria for participation in this study to be set as "Any player who has engaged in playing on a competitive setting, with or without a prize (money or others)". Three participants were removed from the data pool due to being underage, since 18 years old was the defined age for legal participation consent.

The final sample was comprised of 103 Esports players from Portugal ($N=103$), 86 of these participants completed the full report, while the other 18 only answered the qualitative section, falling short on answering the 3 instruments available. Participants were (92%) men and had a mean age of (25.5) years old ($SD=6$). The younger participants were 18 years old, and the eldest 45. Most participants have a high school level education (47%), closely followed by a bachelor's degree (40%). Only 5 participants have a master's degree, while 9 have a basic education. Most of our participants are single (75%), with the remaining being married (25%). The vast majority live with their parents (58%), while 15% live with their partner and children, 14% live only with their partner, 9% live alone and 3% with friends. The majority of our participants have a full-time job (47%), 24% are students, 11% are student-workers, while another 11% are unemployed. Most of the participants live in the center of Portugal (28%), with almost as many in the great Lisbon area (27%) and 22% in the

north of Portugal. To a lesser extent some live in the South (8%), Porto Metropolitan area (6%), Alentejo (5%), and Madeira (2%). Only nine participants are professional Esports players. All the other ($n=95$) met the defined criteria but have another main professional activity. The pro players train an average of 7 hours per day, with a minimum of 3 and maximum of 12. On average the participants join 3 competitions per month, with a minimum of 0 and a maximum of 50. The most played videogame is FIFA (44%), followed by CS:GO (25%), LoL (15%) and COD (10%). There were also individual mentions to other videogames that have a competitive side. Most of the participants play Esports as a team (84%), with only 16% playing as individuals. Team players report a maximum money prize earning of 4000€ and a minimum of 15€, even though most of them report having zero earnings in tournaments (68%). For individual players the highest reported earning was 3000€, with a minimum of 50€ and 50% never having been paid.

Procedure

The data for this study was gathered through online and face to face divulgation. Two major Esports events in Lisbon were visited, to gather knowledge and liaisons in the Esports scene. Also, social media messages and posts in most major Esports groups in Portugal and emails to the major teams and brands were sent with the full study. Participation in this study was made in a voluntary and informed manner, granting full anonymity of the individual data. The study was created on the Qualtrics platform, using skip logics for the professional players and others, ensuring that only the desired participant would be shown the questions that were designed for its specific category. Due to ethical constraints, three participants were eliminated from the study due to being underage.

Thematic analysis. According to Braun and Clarke (2006), thematic analysis is one of the most viable, comprehensive and flexible methods of qualitative data analysis, being the cornerstone of qualitative research. In the survey applied in this study, there were five exploratory, theoretically-driven questions. The thematic analysis was conducted following an inductive, data-driven method, and according to the six step process described by (Braun and Clarke, 2006). The coding process and theme extraction were done on a semantic and explicit level since the answers to each open question were mostly straightforward or single words (codes) already. This process was done after the literature review for this study, therefore ensuring that the researcher was

more familiarized with the data. To further verify the validity of this data, some of the eight steps theorized by Creswell and Clark (2007) were ensured, such as prolonged engagement, triangulation of data (evaluating coherence between the quantitative and qualitative results), clarifying researcher bias and peer debriefing. Each question was analyzed individually, and then several more analysis were conducted to ascertain if codes and themes were concurrent to the various topics extracted. The software used for this process was MAXQDA 2020.

Quantitative analysis. A descriptive statistics analysis, as well as frequencies analysis, were conducted on the sociodemographic data of the participants. A database was built through classification of variables, labeling of items and manually grouping the text answers such as “What is the videogame you most play as an Esport?” into discrete variables. A reliability analysis was conducted to each instrument separately to ascertain the level of internal consistency in this population. A Pearson correlation analysis was conducted to analyze the intercorrelations on study variables. Also a one sample t-test was conducted to compare each instrument to the Portuguese mean described in each adaptation study, as well as an independent samples t-test to compare the pre and post COVID-19 pandemic results for each of the variables studied: perceived stress (PS), social connectedness (SC) and psychological wellbeing (PWB). A multiple linear regression analysis was used to assess the predictive value of PS and SC in the explanation of participants’ PWB, using the enter method. This model was perfected after winsorizing one outlier that was identified through casewise diagnostics, thus improving the residuals and overall strength of the model. Cook’s distance was also reduced to 0 after winsorizing the single outlier. Durbin-watson test and collinearity values were checked, and met parameters, insuring the significance of the model. The software used for quantitative analysis was IBM SPSS Version 26.

Instruments

Sociodemographic questionnaire. Participants completed a short questionnaire in which they reported their age, sex, education level, civil status, whom do they live with, zone of residence and job status.

Questionnaire about Esports. Built specifically for the present study with questions about if Esports is the main professional occupation, and if so how many hours a day

does the participant spend training, on average how many competitions does the participant join monthly, which videogame is most frequently played as an Esport, does the participant play mostly individually or in a team and what was the highest prize money ever earned, either as a team or individual. The questionnaire also included four open questions: “What are the main motivations for your Esports practice?”, “What are the main advantages to your life, that come from Esports practice?”, “What are the main disadvantages to your life, that come from Esports practice?” and “Do you believe that Esports should become a federated sport and why?”.

Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983). PSS-10 is the 10 items, 5-point Likert, version of the original 14 items instrument. It evaluates perceived stress (PS) as a single factor. An example of a question on this scale is “*In the last month, how frequently have you felt nervous or stressed?*”. The Portuguese version by Trigo, Canudo, Branco and Silva (2010) presents a good internal consistency ($\alpha = .87$). In the present study, Cronbach’s alpha was lower, but adequate for research ($\alpha = .63$).

Social Connectedness Scale – Revised (SCS-R; Lee, Draper, & Lee, 2001). The SCS-R in its original study was described as measuring social connectedness as a psychological sense of belonging or, more specifically, as a cognition of enduring interpersonal closeness with the social world. The scale consists of 20 items (10 positive and 10 negative), on a 6-point Likert scale. An example of a question on this scale is “*I feel comfortable in the presence of strangers*”. The Portuguese version by Francisco et al. (2011) used shows very good internal consistency ($\alpha = .90$), as well as in the present study ($\alpha = .92$).

Flourishing Scale (FS; Diener et al., 2009). FS is a brief 8-item, 7-point Likert, summary measure of the respondent's self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism, providing a single psychological well-being score (PWB). An example of a question on this scale is “*I consider myself a good person and I live a good life*”. The Portuguese version by Francisco, Raposo and Sesifredo (2018) has a good internal consistency ($\alpha = .88$). In the present study, Cronbach’s alpha was ($\alpha = .85$).

Results

Thematic analysis.

Motivations for Esports practice.

On the first question, regarding motivations, practitioners mentioned the main drive for playing being competition and all the competitive aspects of almost every videogame ever created. Recurrent answers of only “competition” were registered. The second most referred theme for practitioners was the pure pleasure of the activity of gaming (e.g., “I enjoy playing”, “...the pleasure of the game”). Having fun was also an important part in motivating the participants, while the friendships and social gathering aspect was equally important to them (e.g., “I love playing with my friends!”). Team spirit was the fifth most mentioned motivational aspect, with different manners of eliciting the idea, but mostly mentioning “team spirit” in and of itself as a motivation. Most infrequent themes that were brought to light were the hobby aspect, playing as being a distraction, escaping work life, being well payed and being the best. Although these themes were mentioned far less than competition as a motivation, there was a high level of mentions in other questions, as discussed ahead.

Advantages of Esports practice.

On the question regarding the advantages that Esports bring to the practitioners' life, most participants mentioned relationships/friendship or social gathering as the main advantage to their life (e.g., “I can make new friends”, “The best part if playing with your friends and enjoying”). Coincidental with one of the most referred themes on motivations, the topic of social interaction and friendship is an important factor in the practitioner's experience. A particularly important theme that was the second most salient in the analysis refers to cognitive improvements. This theme was coded after many different codes referring to improvements, were mentioned by the participants (e.g., “I get better at English”, “It gives me better reasoning”, “I feel I improve my decision-making processes”). Other topics mentioned by the participants include more patience, better time management skills, better focus/attention, a continuous growth mentality, better adaptability to different situations, better humor and improved resilience/self-motivation. These specific quotes, along with references to “cognitive improvements” as a broader term, were a big part of the self-reported advantages that players perceive from their practice. Other important advantageous aspects for players

were once more team spirit, coincidental to their references in motivations. Relaxing and the fact that playing is their profession were also mentioned quite a few times. Once again competition in of itself and developing a competitive drive/edge were an important advantage for the participants. Other topics such as the enjoyment of the activity, having fun and forgetting about life issues were extracted from the answers (e.g., “I can get home from work and wind-off”, “It helps get your mind off problems”). Also worth noting is the fact that some participants did not perceive any advantage to their life from Esports practice.

Disadvantages of Esports practice.

On the disadvantages question, an overwhelming number of participants referred the loss of time dispensed on the activity (e.g., “You lose all the time that you should be with family or friends”, “Wasted time”). The second most answered thing was “None”, referring to no perceived disadvantages coming to their life from playing. In line with the loss of time, and sometimes mentioned in the same answer, was social/familiar isolation. Many participants also felt that sedentarism and bad health habits due to playing were a disadvantage to their life (e.g., “...high competition can be damaging. You have bad habits, irritability and you are very sedentary.”). Lack of sleep, slacking off at school or work and a neglect of personal hygiene/care were also themes that the participant mentioned, although to a lesser extent. These themes were often coded with a reference to lack of time. Irritability and a bad reputation from other people’s perspective were also mentioned by the participants.

Should Esports be considered a sport?

The last question focused on whether Esports should be considered a federated sport by the IPDJ (Instituto Português do Desporto e Juventude) and the Portuguese Government. Of all participants, 96% said yes, and their reasons for it were diverse. Most answers revolved around the number of young practitioners starting in activity (e.g., “There is a lot of great, young players out there”). The level of mental skill required for higher level performance was mentioned as the second most relevant reason for the elevation of Esports to federated sport (many times compared to chess). The visibility of the Esports scene was also mentioned as a big factor in being considered sports (e.g., “...this is getting more and more attention, and the events are bigger every year.”). The increasing level of professionalization was mentioned a few times, as well as the fact that it is the “sport of the future”. Also, as transversal themes, the existence

of competition and team spirit were referenced as important factors for the recognition of Esports as an acknowledged sport. The investments being made, the strict schedules teams undergo, and the level of dedication needed for the activity were all mentioned the same number of times, with participants using these topics as comparison to traditional sports.

The extracted themes from the thematic analysis and their respective number of coded references are summarized on Table 1.

Table 1*Thematic analysis themes and number of references*

CATEGORY	REFERENCES
What is your motivation for playing Esports?	
Competition	30
Enjoyment	27
Having fun	21
Socialization & friendships	21
Team spirit	16
Hobby	5
Distraction	4
To be the best	4
Escapement from work	3
Financial reward	3
What are the advantages to your life, from Esports practice?	
Socialization & friendships	26
Cognitive improvement	17
Team spirit	14
Relaxation	12
Being my profession	9
Competition	8
Enjoyment	8
Forget problems	7
None	7
Having fun	6
What are the disadvantages to your life, from Esports practice?	
Time spent	58
None	21
Isolation	14
Health problems	13
Irritability	5
Lack of sleep	5
School & personal neglect	4
Physical & Psychological Wear	3
Bad reputation	1
Should Esports be considered a sport? Yes, why?	
Number of players	18
Mental ability	14
Visibility	13
Professionalization	13
Team spirit	10
Sport of the future	9
Competition	9
Investment	7
Schedules	7
Dedication	7

Statistical analysis.

Table 2 presents the results from the descriptive statistics and intercorrelations on PWB, SC and PS.

Table 2

Summary of Intercorrelations and Descriptive Statistics for Study Variables (N = 86)

Variables	PWB	SC	PS
Psychological Wellbeing (PWB)	–		
Social Connectedness (SC)	.764***	–	
Perceived Stress (PS)	-.509***	-.449***	–
Minimum	30	2.60	15
Maximum	56	5.95	38
Mean	47.7	4.64	25.8
Std. Deviation	5.45	.74	4.6

Note. *** ($p < .001$).

The relationship between variables was always significant and is moderately high and negative for PWB with PS. For PWB and SC it is high and positive, and finally, for PS and SC it is moderate and negative aswell (Cohen, 1988) (Table 2).

For all variables, a One-Sample T-Test was conducted against the value for the Portuguese adaptation version of the respective instrument. On PS the Portuguese sample had a mean score of 13.4 ($SD = 6.5$), being significantly different from the mean on this study's sample ($M = 25.8$, $SD = 4.8$) with a $t(85) = 24.9$ ($p = .000$). On SC the mean results were equal, with a mean of 4.64 ($SD = .64$) for the Portuguese adaptation study and for this study, with a $t(85) = .06$ ($p = .952$). On PWB we can find a mean of 43.96 ($SD = 8.34$), while on this study it was significantly higher ($M = 47.7$, $SD = 5.45$), with a $t(85) = 5.54$ ($p = .000$). On PS and PWB the values used from the Portuguese adaptation studies were that of the masculine samples, since these participants represent most of the sample on this study (92%). On SC the values used were of the general sample, which consisted of Portuguese adolescents between 15 and 20 years of age.

This study had a long online time for data gathering (approximately 4 months) in order to have the desired amount of responses, since even with face to face divulgation and many emails and messages sent to players, teams and institutions, the rate of responses was very slow. This led to this 4-month span of time covering the COVID-19 pandemic. This never before seen event in modern society would be bound to have an impact on each individual variable, so an independent samples t-test analysis was made to each variable to analyze answers before and after the global lockdown event. The only variable with a significant difference for answers before and after the pandemic was PS [$t(84) = 2.402, p = .019$]. For answers recorded before the global lockdown there is mean value of 24.38, ($SD = 4.02$) and for answers after the lockdown it is of 26.74, ($SD = 4.77$).

A multiple linear regression analysis was calculated to predict PWB based on perceived stress and social connectedness. A significant regression equation was found where both social connectedness and perceived stress were significant predictors of PWB, explaining 60.9% of participants' wellbeing variance, with a higher contribution of social connectedness (Table 3).

Table 3

Linear Regression Model for predicting Psychological Wellbeing (n=86)

Variable	Coefficients		
	<i>B</i>	<i>SE B</i>	β
Perceived Stress (PS)	-.245	.09	-.207
Social Connectedness (SC)	4.947	.559	.671
R^2		.618	
R^2 Adjusted		.609	
<i>F</i>		67.271***	

Note. *** $p < .001$.

Discussion

This study focused on the psychosocial characterization and description of Esports players in Portugal. Specifically, the main objectives were to characterize the motivations, feelings and experience of these practitioners, while at the same time measure their perceived stress, psychological wellbeing and social connectedness levels.

The results of this study are in accordance with most international literature about Esports practitioners. The high levels of perceived stress were the most alarming being extremely near the cutoff point considered as high perceived stress. These numbers however indicate moderate stress. The results of this Esports sample were quite similar to that of the sample of patients with anxiety disorders (Trigo et al., 2010). However, contrastingly, the psychological wellbeing levels were slightly above the Portuguese average, which is a good sign, in line with the reports from players in the present study of enjoying the activity and loving what they do. This contradicts the findings by Kocadağ (2019) where there is a decrease in psychological wellbeing with the number of hours that aspiring Esports professionals spend playing, and the desire of being a professional leading to lower levels of psychological wellbeing. Using the same instrument (Flourishing Scale), the author found low levels of psychological wellbeing on participants who played more hours, although a direct analysis of hours spent playing with psychological wellbeing cannot be done on this study due to lack of this information, the results for psychological wellbeing do not seem to indicate an overall low level of psychological wellbeing. On the level of social connectedness, we found the exact same value as reported by Francisco et al. (2011) on the Portuguese sample study. This is understandable due to the young age of the participants in both studies. Also, one can explain this phenomenon by analyzing the players answers on motivations and advantages to their life, many times referring social gathering and friends as one of the most positive experiences in playing.

Regarding stress, as other authors have pointed out, the higher the level of professionalism and significance of the player in any given Esport, the higher the stress levels they are subject too. On their study on mental toughness and stress levels of Esports players, Poulus, Coulter, Trotter and Polman (2020) have found that problem-focused and emotional-focused coping strategies were preferred by the players instead of avoidance based coping. One can argue that these type of strategies may be related to the high level of perceived stress reported in this study, but also a high psychological

wellbeing level, with the effects of stress on psychological wellbeing being minor compared to that of social connectedness. Players in the present study reported competition and social interaction as major motivators for their practice, therefore these may be part of their coping strategies for their stress levels, reducing the negative effect of perceived stress on the overall regression model created. The results reported in this study and Poulus et al (2020) are also similar on the variability of the players sample, since there were only 9% of professionals to answer this questionnaire and only 13% for the mentioned author's study. Some other possible coping strategies, or advantages as reported by players in the present study were enjoyment, relaxation, having fun, but mostly improving mental skills. These findings are similar to what García-Lanzo and Chamarro (2018) described with a sample of Spanish "LoL" players, with competition, social and improvement motivations being the most important topics for the players. In this study it was seen that the players engaged in Esports for the harmonious passion of playing, and not obsession, and also to improve their mental skills, something that some participants of the present study also reported as important for them.

Other important aspect of this study were the answers on the main motivations for the practice. Players reported competition, having fun, team spirit, enjoyment and friendships as their main motivators to engage in Esports. This goes in line with the quantitative data gathered, since the high levels of social connectedness can be attributed to their team spirit and friendships aspects, while psychological wellbeing may be explained from the enjoyment and fun that comes from the practice. The high levels of perceived stress can be analyzed in two ways. On one side, it is known that competition is an intrinsically stressful activity. As debated by Pais Ribeiro and Marques (2009) the PSS-10 does not differentiate between eustress and distress, nor does it fully scan the difference between psychological and biological stress. In any case, competition activates both these pathways in the human body. It is an acute, singular moment where both body and mind are in stress to better help us deal with the challenge at hand and the goal of winning. This goes in line with many previous studies linking high stress levels to Esports players (Bányai, 2019; Griffiths, 2017; Poulus, 2020; Smith, 2019). On the other side, there is the significant increase on perceived stress from answers due to the COVID-19 pandemic and global lockdown. This event was known to cause an increase on stress levels on the entire world population, due to its novelty and threat to human life (Pakpour, Griffiths & Lin, 2020). Either way one sees it, the

perceived stress level is a worrying indicator on its own, but apparently a minor influencer on the wellbeing and social networks of the participants.

Other negative aspects players reported were time spent/wasted, isolation, health issues, irritability, lack of sleep and neglect. The consumption of the time from the practice was the most referred theme with 60% of the participants feeling this, which in turn leads to less family and social time and isolation. Paradoxically, participants reported losing time with their family and friends but presented high social connectedness levels. This can be attributed to the in-game meetings and connection with other players. The stigma of the lonely videogame player is a thing of the past, with most players reporting playing on a team and also reporting social aspects as their main motivator for playing. Interestingly, another 20% reported no disadvantages to their life from Esports, with only advantages, which is also a positive indicator. Other aspects such as personal neglect, health issues and irritability or lack of sleep can most likely be attributed to “grind” sessions (extreme long sessions of playing), which is a major problem on Esports teams, professionals and even on more casual practitioners (DiFrancisco-Donoghue et al, 2019). The physical and psychological strain of overexertion of an activity as demanding and sedentary as gaming, is one of the main focuses for multidisciplinary health teams everywhere.

Here once again there is space for debate whether these players are dedicated and motivated to be the best and eventually have a career on Esports, or if these individuals are unknowingly suffering from some level of IGD. As recently presented by Teng et al. (2020) on a longitudinal cross-lagged panel study of ($n=1054$) adolescents and emerging adults from China, IGD negatively impacts a different host of psychosocial wellbeing variables, such as social support, life satisfaction and self-esteem. On a rare longitudinal study on this matter, the authors evaluated the participants on three different times, with four different variables: IGD assessment, self-esteem, social support and life satisfaction. The results supported the “interpersonal impairment hypothesis” in which the higher indexes of IGD led to lower levels of psychosocial wellbeing and interpersonal problems. There was also a very distinct effect on males specifically, with IGD predicting lower levels of psychosocial wellbeing more than with females. The authors discuss that IGD is a predictor of poorer levels on all variables of psychosocial wellbeing, but not the inverse, with lower levels of each variable not predicting higher levels of IGD. This is very relevant on our present study,

since the participants have reported less time spent with their family and some forms of neglect, which can lead to less self-esteem. There is a thin line between addiction and commitment that should be studied and presented to aspiring Esports professionals, in order to avoid potential risk factors turning into hazardous conditions.

The final question that was posed to the participants, due to its impact on society and players, but also its relevance on the literature, was “Do you think Esports should be considered a federated sport, or not, and why?”. With a massive 96% of participants answering yes, the reasoning for the answer varied. Most participants referred the number of players, the mental ability involved (compared to chess most times), visibility, professionalization, team spirit, competition, and the fact that it is the sport of the future. These answers go in line with what the majority of the literature defends, mostly the integration of sports management and psychology as the best fitting model to conceptualize Esports (Cunningham et al, 2018). There is also the importance and visibility being given to these events, with sponsors, brands, casting and venues generating massive income and fueling an industry that is growing to be the biggest on entertainment. Amidst the COVID-19 pandemic in Portugal and due to all sports events being canceled, the FPF endorsed FIFA Esports even more, with Esports players and football players (some of them practice both aspects) having a critical role on maintaining the football environment and fandom going during a full stop to competitions. If one is to analyze the SportsAccord definition of sport, or refer to the work of many authors (Hemphill, 2005; Wagner, 2006; Cunningham, 2018), there is little argument that Esports should benefit from the elevation to sport and be recognized by national governments as such. Internationally, there are already such examples like South Korea, China and others. The United States have also taking their first steps toward this reality, with a support for universities to Esports college sport programs and most major networks and sports teams casting and endorsing Esports. The Olympic Committee as also taken note of this reality, with many negotiations taking part with organizing countries and other entities, to bring forth Esports to the Olympic realm. Nationally there is still a lot of work to be done, however the FPDE and other entities are trying to create a workgroup to present a document to the Portuguese government, showing the need to regulate, promote and establish Esports on the national sports curriculum, therefore ensuring that many young aspiring professionals can have strict guidelines and support as any other young athlete would.

Conclusion

This study strives to further the scientific knowledge about Esports, giving voice to the players motivations, experiences and thoughts on the matter, while at the same time quantifying the levels of stress, social connectedness and psychological wellbeing that the players experience on their life. The results were congruent with previous findings and are substantiated by both the player accounts on the qualitative analysis and by the quantitative findings on previous studies. The high stress levels reported, are seemingly less impactful on the participants psychological wellbeing, than their levels of social connectedness, with the latter also showing a high level. The participants reported an overall positive feeling about Esports, recognizing the practice as rewarding, socially enriching and enjoyable. As an added value, there is the report of participants feelings on Esports recognition as a sport, fueling the ongoing literature and societal debate on this subject. The data gathered sheds some light on an under researched subject, with important implications in the near future, and with a massive pool of players, teams and companies involved, forcing science to accompany this growing phenomenon in order to protect the players from psychosocial and health hazards.

Limitations and implications for future research

This study is not without limitations. First and foremost, the data was very hard to collect, with in-person divulgations and many online contacts made with players and teams, leading to a less robust sample than intended. Second, due to the nature of the academic project, a cross-sectional design with snowball sampling was the only option, leading to a non-experimental study. Also only a reduced number of variables could be chosen, even if much more could be added to the literature, since there are no previous studies conducted on this field in Portugal. The recommendation for future research is that the scientific community recognizes the value of studying this specific population, due to the impacts of Esports on the players themselves, but also society as a whole. More health outcomes, with different physical and psychological study variables, must be studied in order to protect the players and also bridge the gap between traditional sports and Esports.

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