The defining characteristics of esports players. A systematic review of the samples used in esports research

Guillermo Mendoza[1], Iván Bonilla[2], Andrés Chamarro[2] & Manuel Jiménez[3]
[1]Universidad de Málaga
[2]Autonomous University of Barcelona
[3]Universidad Internacional de La Rioja

Abstract. Despite the proliferation of studies on esports, there is a lack of consensus as to as the precise definition of an esports player. Studies have used competitive gamers, casual gamers, or recreational gamers as samples, and this poses serious issues for the generalization of their results. The main goal of this review is to reach a definition as to what constitutes an esports player in order to establish a standard for future studies. This is accomplished by analyzing the various criteria that esports researchers have used to select their participants. Methods: This study is a systematic review of empirical articles. The international databases Web of Science, Scopus, Medline, SciELO, and SpringerLink were reviewed for articles in English and Spanish including the term esport or e-sport in the title, abstract or keywords, with samples reported as esports players. A total of 48 studies were selected for this review. Three types of defining criteria were identified: being a professional player, being part of an organized team and having experience in competitions. Additionally, "engagement '', understood as the amount of time dedicated to training and improving, is also mentioned as a key distinguishing factor. Finally, a definition for esports players is proposed to help standardize the sampling criteria for future research.

Keywords: esports players; systematic review; competitive gaming; samples; gamers

Las características definitorias de los jugadores de esports. Una revisión sistemática de las muestras utilizadas en la investigación de esports

Resumen. A pesar de la proliferación de estudios sobre deportes electrónicos, existe una falta de consenso en cuanto a la definición precisa de un jugador de deportes electrónicos. Los estudios han utilizado jugadores competitivos, jugadores casuales o jugadores recreativos como muestras, y esto plantea serios problemas para la generalización de sus resultados. El objetivo principal de esta revisión es llegar a una definición de lo que constituye un jugador de esports con el fin de establecer un estándar para futuros estudios. Esto se logra mediante el análisis de los diversos criterios que los investigadores de deportes electrónicos han utilizado para seleccionar a sus participantes. Métodos: Este estudio es una revisión sistemática de artículos empíricos. Se revisaron las bases de datos internacionales Web of Science, Scopus, Medline, SciELO y SpringerLink en busca de artículos en inglés y español que incluyeran el término esport o e-sport en el título, resumen o palabras clave, con muestras reportadas como jugadores de esports. Se seleccionó un total de 48 estudios para esta revisión. Se identificaron tres tipos de criterios definitorios: ser jugador profesional, formar parte de un equipo organizado y tener experiencia en competiciones. Adicionalmente, el "engagement", entendido como la cantidad de tiempo dedicado a capacitarse y mejorar, también se menciona como un factor diferenciador clave. Finalmente, se propone una definición de jugadores de deportes electrónicos para ayudar a estandarizar los criterios de muestreo para futuras investigaciones.

Palabras clave: jugadores de esports; revisión sistemática; juegos competitivos; muestras; jugadores

Correspondence
Iván Bonilla

ORCID: 0000-0002-0817-8132
ivan.bonilla@uab.cat

Introduction

The growing interest in improving competitive performance in esports based on scientific evidence has led to a steady increase in the number of studies on this topic (Reitman et al., 2020). However, as this is a relatively new research area, some authors have pointed out certain methodological issues that should be addressed by researchers investigating both recreational (Dale & Green, 2017) and competitive videogaming (Pedraza-Ramirez et al., 2020). For example, there have been calls for a clearer definition of esports, as well as for the establishment of clear inclusion and exclusion criteria for future samples.

It is true that there is some disagreement as to what should be considered an electronic sport (Cranmer at al., 2021), but esports are commonly defined as competitive computer gaming (Jonasson & Thiborg, 2010; Parshakov & Zavertiaeva, 2018), or competitive play of video games in public settings (Ruvalcaba et al., 2018). Thus, participating in tournaments or leagues is a key factor distinguishing esports from "casual gaming" or "recreational gaming" (Martončik, 2015). Another important characteristic that defines esports is organization (i.e., a set of rules overseen by an official entity that dictates the way the game should be played to standardize all competitions). Some authors have defined esports as organized electronic and video game competitions (Funk et al., 2018; Sousa et al., 2020). For the purposes of this study, we are going to use the following definition: "*Esports* consist of a number of organized video game competitions in which individuals or teams play by a set of established rules" García-Lanzo and Chamarro (2018, pp. 61). This definition highlights the main factors that set esports apart from other videogaming in an objective way (organized competitions with a standardized set of rules). In other words, the mere fact that players have a competitive purpose is not enough for a gaming practice to be considered an esports activity, because it lacks the necessary organizational factor that provides the structure for an official competition.

Videogames that are played as esports usually also have different gaming modes that are not related to competition. For example, League of Legends (LoL) offers different options such as solo, duo, training, ranked games, and custom games, but only the custom game mode allows you to create and play a match with tournament rules. The latter mode is used in officially-regulated competitions, or esports, (RIOT, 2022). Each of the other modes has its own set of rules that differs from those of tournaments. Ranked games, for example, are online matches where a player is paired with random players with similar rankings and is not able to control who they are going to play with or against. In this context, the draft (the process by which players select their characters for the match) differs from what is done in tournament. In a tournament draft, teams take turns selecting their characters, but they are also able ban other characters from being selected, which

is an important part of game strategy. This is not the case in ranked games, where both teams select their characters simultaneously with full freedom. These differences can create a completely different player experience (Mora-Catallops & Sicilia, 2018). Therefore, a gamer might play many hours of ranked games without being involved in the esport side of the game at all, never having played with official tournament rules.

In light of these factors, we are able not only to distinguish esports from gaming as a broader phenomenon, but also to differentiate between esports players and other gamers. Indeed, previous studies have addressed the differences between esports players and recreational players (Banyai et al., 2019a; Banyai et al., 2021; Ding et al., 2018), but they have used a wide range of inconsistent and often imprecise criteria to determine whether a given participant was an esport player. This diversity of criteria could make it difficult to compare and discuss the findings of different studies. In fact, a review article on esports and stress pointed to discrepancies due to inconsistencies in methodology (Leis & Lautenbach, 2020) and underscored the necessity to homogenize esports research in terms of the field's theoretical and methodological approaches. The main question is whether the samples used in the various studies were properly selected to evaluate the differences between groups and make comparisons between moments, and whether analysis correlations between variables have exceeded the critical values to reduce type I and type II errors (Biau et al., 2008). Sample size, the selection of sampling moments, and definition of participants' competitive level are all issues that must be carefully considered in experimental design, due to their relevant impact on sports competition (Jiménez et al., 2020). The estimation, precision, and power of the sample size are some of the most important factors that make it possible to answer research questions solidly (Abt et al., 2020). Few systematic reviews in the field have focused on sampling and inclusion criterion rather than on research results, but such reviews are necessary (Kotwicki & Grivas, 2012; Shen et al., 2011)) because a focus on sampling can help guide future researchers to standardize their inclusion and exclusion criteria, thus making research findings easier to compare. Thus, the main goal of this review was to analyze the criteria used in esports research to select participants in order to reach a definition of what it means to be an esports player and to propose clear inclusion criteria for future studies of this population.

Method

Data sources

The search strategy for this review was planned and developed following the PRISMA guidelines for systematic reviews (Moher et al., 2009). Following the PICO model, we defined the study characteristics to refine the search strategy (Liberati et al., 2009; Sham-

Table 1. PICO or topic statement strategy

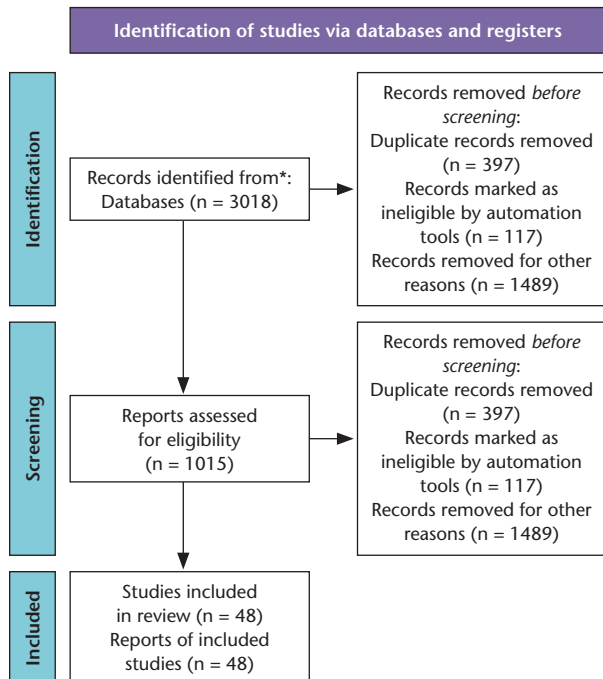| Topic	Description
Population	All empirical esports articles in any field focused on esports players.
Intervention	To identify what the inclusion and exclusion criteria of this articles.
Comparison	To compare the selected articles in terms of the common inclusion criteria that they use to be sure that they are researching esports players.
Outcome	Inclusion criteria to help us propose a definition

Figure 1. PRISMA flow diagram.

seer et al., 2015) (Table 1). Figure 1 is a flow diagram depicting the flow of information through the different phases of our review. Table 2 presents both variations of the term "esports" OR "e-sports" OR "video game competitions" AND "players", which were used to search for peer reviewed papers published in English or Spanish since 2000 (excluding books, conference proceedings and doctoral thesis). In October 2022, we searched on the following search engines and databases: Web of Science, Scopus, MedLine, SciELO and Springer Link. Inclusion and exclusion criteria for studies are presented in Table 3. After removing duplicates and irrelevant articles, a total of 1015 records

Table 2. Data sources

Databases	Search syntax	Results
Web of Science	Results for: esports (Topic) OR e-sports (Topic) OR video game competitions (Topic) AND players	1085
Scopus	(TITLE-ABS-KEY (esports) OR TITLE-ABS-KEY (e-sports) OR TITLE-ABS-KEY (video game competitions) AND TITLE-ABS-KEY (players)	527
Medline	(esports) OR (e-sports) OR (video game competitions) AND players	257
SciELO	(esports) OR (e-sports) OR (video game competitions) AND players	15
SpringerLInk	Result(s) for esports OR e-sports OR video game competitions AND players	1224
Total		3108

Table 3. Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Empirical Research	Reviews, meta-analyses and opinion articles.
Sample must include esports players, esports competitors or esports athletes.	Samples that did not specifically distinguish between esport players and other groups. Samples with unclear inclusion criteria.
Clear inclusion criteria for participants.	Samples with inclusion criteria that were only related to in-game ranking.
The main esport in which participants are involved must be reported.	

were included in the screening process. Title and abstract were screened, leaving 131 records. Finally, a full-text review resulted in 48 studies that matched our criteria (Table 4).

The present review does not include studies that examined esports players but that did not specify the videogame in which those players competed, as replicating their results would be not be feasible. Recent findings have suggested that players involved in different videogames genres tend to develop different sets of skills (Bickmann et al., 2021; Deleuze et al., 2017). It is also worth noting that the presence of in-game rankings was not used as an inclusion criterion to distinguish esports players from recreational gamers or content creators. Such rankings do not emerge from official competitions but instead come from "ranked" games, a gaming mode that is not included as a tournament mode for the publisher (RIOT, 2022).

Results

Study Description

Of the 48 studies that met the inclusion criteria, 37 had a quantitative research design, 11 were qualitative, and only one used mixed methods. There are a wide range of esports, but despite the diversity of genres that exists, most of the studies just focused on only one esport (32), while 16 studies used 2 or more. The most frequent esports genres used in the studies selected were: first person shooters (FPS) with 29 mentions, multiplayer online battle arena (MOBA) with 28 mentions, sports games (12), battle royale games (4), fighting games (4) and others (mobile, cards, and real-time strategy games), with 8.

Sample characteristics

In the quantitative studies included in this review (qualitative research usually focused on a small number of participants), sample size varied considerably. Data were obtained from the players through two different kinds of sources, either via direct measurement of a selected sample (37) or through surveys (7), with four studies employing both types of sources. LoL players (22) were the most frequently sampled among the studies selected, followed by Counter Strike: Global Offensive (13) and Overwatch players (7).

Table 4. Studies and data included in the systematic review and analysis

Author(s)	Sample[a]	Methodology	Data Source	Inclusion Criteria[b]	WoS Category	Esports[c]
Abramov et al. (2021)	N = 42	Quantitative	Audio recordings	CE	Medical Informatics	TF
Andre et al. (2020)	N = 32	Quantitative	Sample	CTC	Exercise science	OW/SSB/RL/ CSGO/ COD
Benoit et al. (2020)	N = 14	Quantitative	Sample	CE/PP	Multidisciplinary	OW
Bickmann et al. (2020)	N = 11PP N = 10 NPP (N = 21)	Quantitative	Sample	CE	Computer Science	FIFA
Bonilla et al. (2022)	N = 10	Qualitative	Sample	PP/CTC	Psychology	LOL/HS/FIFA
Bonnar et al. (2021)	N = 17	Quantitative	Sample	PP	Psychology	FPS
Brea Castro (2021)	N = 3	Qualitative	Sample	CE	Leisure, Sport & Tourism	BS
Ciloglu et al. (2020)	N = 12	Qualitative	Sample	CE/CTC	Ecology	HADO
Falkenthal & Byrne, (2021)	N = 14 SPP	Qualitative	Sample	CE	Education	DOTA2/LOL/ OW
Fanfarelli, (2018)	N = 11	Qualitative	Sample	PP	Computer science	OW
Giakoni-Ramírez et al. (2021)	N = 53	Quantitative	Direct Measure	PP	Anatomy & Morphology	LOL/CSGO/ COD/HS/ FIFA/ CR/ FNT/ RL
Giakoni-Ramírez et al. (2022)	N = 260	Quantitative	Sample	PP	Public Health, Environmental and Occupational Health	LOL/CSGO/ COD/CR
Gomes et al. (2021)	N = 20	Quantitative	Survey	CE	Physiology & Biology	LOL
Himmelstein et al. (2017)	N = 5	Qualitative	Sample	CE	Computer science	LOL
Kari & Karhulahti, (2016)	N = 112	Quantitative	Survey	CE	Computer science	CSGO/SCII/ DOTA 2/LOL
Khromov et al. (2019)	N = 24 PP N = 4 AT (N = 28)	Quantitative	Direct measure	CE	Computer science	CSGO
Kim & Thomas, (2015)	N = 13	Qualitative	Sample	CE	Information technology	SCII
Kleinman et al. (2021)	N = 30	Quantitative	Sample	CE/CTC	Psychology	LOL
Lange et al. (2022)	N = 22	Quantitative	Sample	PP	Engineering	LOL
Lee et al. (2021)	N = 17	Quantitative	Direct Measure /Survey	PP	Environmental Medicine & Public Health	FPS
Leung et al. (2021)	N = 240	Mixed	Sample/Survey	CE	Environmental Medicine & Public Health	LOL/PUBG
Lopes et al. (2022)	N = 75	Quantitative	Sample	PP	Environmental Science	LOL
Macedo & Falcão (2020)	N = 5	Qualitative	Sample	CTC	Computer science	LOL
Machado et al. (2022)	N = 50	Quantitative	Direct Measure	PP	Psychology	CSGO
Martoncˇik (2015)	N = 108	Quantitative	Online survey	CE	Psychology	SCB/WC3
Mateo-Orcajada et al. (2022)	N = 5	Quantitative	Direct Measure/ Survey	CE/PP	Psychology	LOL
Mendoza et al. (2021)	N = 45	Quantitative	Volunteers	CE	Environmental Medicine & Public Health	LOL
Pereira et al. (2021)	N = 926	Quantitative	Online Survey	CE	Psychology	FIFA/PRO
Pereira et al. (2021)	N = 292	Quantitative	Online Survey	CE	Exercise science	FIFA/PRO
Pérez-Rubio et al. (2017)	N = 42	Quantitative	Survey	PP	Psychology	LOL
Pishchik et al. (2019)	N = 70	Quantitative	Direct Measures	CTC	Education	DOTA 2
Pluss et al. (2022)	N = 30	Quantitative	Sample	PP	Psychology	CSGO
Poulus et al. (2021)	N = 7	Quantitative	Sample	PP	Sport sciences	LOL/CSGO/ R6/OW
Poulus et al. (2022)	N = 6	Qualitative	Sample	CE	Applied Psychology	LOL
Poulus et al. (2020)	N = 316	Quantitative	Online Survey	PP	Psychology	DOTA2/LOL/ CSGO/OW/ R6
Qian (2021)	N = 15 SPP	Quantitative	Selected Sample	CTC	Computer science	DOTA 2
Reitman (2018)	N = 11 SPP	Qualitative	Sample/ Observation	CTC/CE	Computer science	LOL
Sainz et al. (2020)	N = 15	Quantitative	Selected Sample	PP	Psychology	FNT/CSGO
Schubert et al. (2022)	N = 9	Qualitative	Selected Sample	PP/CTC	Health	FIFA
Smith et al. (2019)	N = 7	Quantitative	Selected Sample	CE	Computer science	CSGO
Smith et al. (2022)	N = 313	Quantitative	Online Survey	CE	Health Care Sciences & Services	CSGO/ R6/ VALORANT
Sousa et al. (2020)	N = 17	Quantitative	Direct Measure/Survey	CE	Psychology	LOL/OW
Suh (2018)	PP = 17 NPP = 39 (N = 56)	Quantitative	Direct Measure	PP	Engineering	HS
Thomas et al. (2019)	N = 9	Quantitative	Convenience Sample	PP	Sport sciences	LOL
Valls-Serrano et al. (2022)	PP = 20 NPP = 60 (N = 80)	Quantitative	Sample	CE	Neuropsychology & Physiological Psychology	LOL
Wang et al. (2022)	N = 232	Quantitative	Sample	CE	Human-Computer Interaction	Honor of Kings
Watanabe et al. (2021)	N = 9	Quantitative	Direct Measure	CTC	Multidisciplinary	SFV
Zimmer et al. (2022)	N = 30	Quantitative	Direct Measure	CTC/CE	Exercise Physiology	CSGO/FIFA

Note. [a] PP= Professional Players, SPP= Students-Professional Players, NPP = Non-Professional Players and AT=Athletes. [b] PP= Professional Players, CTC = Competitive Team or Club member and CE= Competitive experience. [c] LOL= League of Legends, DOTA 2 = Defense of the Ancients 2, CSGO = Counter-Strike: Global Offence, COD = Call of Duty, OW = Overwatch, R6 = Rainbow Six, RL = Rocket League, SCII = StarCraft II, SCB = StarCraft: Brood-War, WC3 = Warcraft 3, SSB = Super Smash Bros, TF =Team Fortress, FNT = Fortnite, PUBG = Player Unknown's Battlegrounds, BS = Brawl Stars, CR= Clash Royal, SFV =Street Fighter V Arcade Edition, FPS = First Person Shooter.

Participant inclusion criteria

The literature review identified three major types of criteria for the inclusion of participants as esports players:

Playing professionally. 20 studies included only professional players in their samples. Having a current contract for playing was a straightforward indicator of this condition (Lange et al., 2022). Playing for an elite team or in a high-level league was another indicator that the participants were professionals (Benoit et al., 2020; Bonnas et al., 2021; Casey et al. 2019; Fanfarell-li, 2018; Giakoni-Ramírez et al., 2021; Giakoni-Ramírez et al., 2022; Kari & Karhulahti, 2016; Lee et al., 2021; Lopes et al., 2022; Machado et al., 2022; Mateo-Orcajada et al., 2022; Perez-Rubio et al., 2017; Poulus et al., 2020; Poulus et al., 2021; Schubert et al., 2022; Suh, 2018; Watanabe et al., 2021). Other studies mentioned that players for whom prize money from tournaments represented a significant source of their income could also be considered professoinals (Sainz et al., 2020).

Being part of an esport team or organization. 9 studies selected their samples based on these criteria. The difference with the previous criterion is that in this case, the teams are not professional, and their members do not earn a salary for playing. Nevertheless, the teams are not created spontaneously nor just for the purpose of the study. The players are members of established teams competing in official tournaments (Bonilla et al., 2022; Kleinman et al., 2021). These criteria include different kinds of teams, such as college teams (Andre et al., 2020; Falkenthal et al., 2021; Qian, 2021; Sousa et al., 2020; Reitman, 2018), national teams (Ciloglu et al., 2020) and semi-pro teams (Macedo & Falcao, 2020).

Having competitive experience. 21 studies describe their samples as consisting of players with experience in competitions. Studies used different methods of measuring experience, with four measuring the number of years competing (Brea Castro, 2021; Kim & Thomas, 2015; Pishchik et al., 2019; Smith et al., 2022). Another indicator was the amount of time dedicated to the preparation and training for competition. This criterion was variously described as engaging in a pre-competition routine (Gomes et al., 2021), spending 10 to 40 hours a week training (Mendoza et al., 2021; Zimmer et al., 2022), or having accumulated 700 hours of in-game practice (Khromov et al., 2019). Pluss et al. (2022) were more specific and distinguished "competitive hours of practice" from total hours of practice. Finally, participation in competitions is a direct way of measuring this factor, but studies have adopted varying experience thresholds to label participants as esports players, with some selecting those with "regular participation in tournaments" (Bickmann et al., 2020), others saying that participants must have accumulated 100 games of competitive gaming (Valls-Serrano et al., 2022), have played in at least one, two or six tournaments in the previous year (Himmelstein et al., 2017; Leung et al., 2021), and still others specifying that esports players must be currently participating or must have participated in a tournament at least once (Abramov et al., 2021; Kleinman et al., 2021; Martončik, 2015; Pereira et al., 2021a; Pereira et al., 2021b; Poulus et al., 2022; Smith et al., 2019; Wang et al., 2022).

Discussion

The aim of this review was to analyze the samples of empirical esport research to help shed light on what constitutes an esports player and thus to help researchers obtain representative samples of this population. To accomplish this, this review examines 48 studies which were selected because they used the term esports (or e-sports) and met our criteria. We found that there is a wide diversity of sampling methods, and, in some cases, it is challenging to identify the participants as esports players due to lack of detailed information. Overall, there is not a clear consensus on what constitutes an esports player and where the line should be drawn to distinguish them from casual players or gamers. This methodological diversity makes comparison between findings more difficult, as other authors have previously pointed out (Dale & Green, 2017; Pedraza-Ramirez et al., 2020)

In order to analyze how esports research identifies esports players, the inclusion criteria used in studies must be clear and well defined. The first inclusion criterion that we were able to recognize called for players that have contracts or receive payments for competing in tournaments. Studying professional players could be seen as the easiest way to secure a relevant sample. However, we should consider two challenges. Firstly, professional players are a group that is hard to access, and therefore samples are usually small (Mateo-Orcajada et al., 2022; Watanabe et al., 2021). Secondly, not all professionals are equal. There are different tiers among professional leagues, different salary levels, prizes, and expectations, which means that a player competing in the highest league in a given esport might be very different from a player that participates in a small regional league. It is fair to assume that both players are professionals, but not all studies report which league or tournament they take part in.

Not every competitive player reaches the professional level. Thus, a second criterion was identified to include semi-pro or amateur (but competitive) players. Playing for an organized team is a criterion that presents some challenges as well. The first challenge is to define what constitutes an "organized" team. Some studies report on what kind of teams are included in their sample (colleges, national, or semi-pro teams), and it is implied that these teams compete in at least one official tournament and back their players with some staff (coaches and/or managers), a factor that helps to separate organized teams from more informal groups of players (for example "clans"). Another challenge is that not every esport player is necessarily part of a team or organization. There are many video games whose competitive mode is individual and does not

always require a team (fighting games, RTS games and some sports-related games). Also, free agents (FA), players that currently do not represent any organization at the time, should be considered esports players as well.

Finally, the third criterion identified in this review was direct competitive experience. Experience can be considered a more representative identifying characteristic of an esport player, because is not linked to situational factors. Regardless of their current employment situation (having a contract or being a FA) and of the characteristics of compositions (team or individual based), we should be able to recognize an esport player by his or her competitive experience and current involvement in competitions. Nevertheless, as with the other two criteria, we found in the studies selected that there is not a consensus or clear indicator of what constitutes competitive experience. The concept has been variously measured by the number of years since a player's competitive career had started, the number of competitions in the previous year, or the number of accumulated hours of game play . Hours of gameplay does not necessarily mean "competitive hours" (Pluss et al., 2022), and years of experience might not necessarily mean the same for every player. Two players may have spent the same number of years competing, but one could have gained much more experience by competing in more tournaments over the same time period. Of the three indicators, the number of competitions in the last year is the least ambiguous and is relatively easy to check. Another way to measure competitive experience is to examine the player's current engagement in his/her esport. Studies have measured this by asking if the player is currently participating in a tournament and by gathering data on how many hours a week players spend preparing for competition (routines and training). This criterion reflects an "engagement" factor. We consider that engagement is a key factor that helps understand and identify an esport player, because competitive players not only compete, but prepare themselves for competitions to achieve the best result possible. As we see in traditional sports, competitive players spend their time not only playing, but training, studying, and/or analyzing the game.

Meanwhile, some authors have highlighted the differences between various types of video games (Bickmann et al., 2021; Deleuze et al., 2017). MOBA players and FPS players do not always share the same traits and characteristics. In this review, we found that 68.57% of the studies (24) focused on just one esport, while 31.43% (11) focused on two or more. Studying one type of video game and drawing conclusions about the whole category of esports has the same limitations as studying one Olympic sport and then offering general conclusions for all Olympic athletes.

The limitations of this review must be acknowledged. First, by reducing the selected papers to English and Spanish, we may have missed relevant studies in other languages. Second, during the review process we had to discard some studies, even if a sample of esports players was reported, due to lack of information about

the sample or unclear inclusion criteria. Third, we searched for studies that specifically used the term esports (or e-sports) in its title, abstract or keywords. We did not include papers that used other alternatives such as "competitive gamers" or "League of Legends players". This was a conscious decision with the objective of narrowing the search down to the studies that identify themselves as "esports research" by using the term.

Conclusion

This systematic review provides insights into how the current body of knowledge defines "esports players". We found that what constitutes an esport player varies widely among current studies. If esports are defined as competitive and organized video gaming, esports players can be defined as "competitive players that are involved in organized tournaments, as well as participating, training, and preparing for them". Esports players should be clearly distinguished from casual players or gamers. We believe that experience in competitions and engagement in their esports are the indicators that provide a clearer differentiation.

Therefore, we suggest the following inclusion criteria, which incorporate experience and engagement. Esports players are those who have participated in at least one official competition in the preceding three months or three in the preceding year, and who spend at least ten hours a week on improving their abilities (training or studying). These criteria are proposed to establish a cut-off point between a recreational gamer and an esport player, much as the minimum number of weekly hours was proposed as a criterion by Zimmmer et al. (2022). Experienced competitive players (e.g., professional players) will often surpass these minimum requirements. Also, these inclusion criteria could help to homogenize future esports research and prevent the confusion of esports players with wider populations such as gamers, fans or esports consumers.

Regardless of the inclusion criteria used, we recommend that future researchers provide specific information about how participants are contacted and selected, the specific video games they play as their main esport, and the competitions they are participating in or have taken part in recently. That information will help to reach findings that can be replicated and to establish the generalizability or specificity of the results.

Author Disclosure Statement

There are no conflicts of interest.

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