Psychological skills in esports: Qualitative study of individual and team players

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Abstract. The aim of this qualitative study was to explore in more detail the key psychological skills that affect players' performance in esports. A total of ten players from a range of different individual and team esports were interviewed. The data analysis was carried out through a CodeBook thematic analysis. The results obtained suggest that the following three main dimensions underpin the optimal performance of the players: (a) technical-tactical skills, (b) psychological skills and (c) healthy habits. Within the category of psychological skills, 8 components were found: (a) Attentional control, (b) Emotional control, (c) Activation control, (d) Communication, (e) Team cohesion, (f) Thought control, (g) Goal control and (h) Behavioral control. In addition, an emerging theme was found to be the careers they have developed within esports, with all participants following a similar pattern. The results suggest the importance of sport psychology as a performance-related activity, the similarity of the psychological skills found with those that are prevalent in traditional sport, the importance of working on sustained attention and coping with tilt, and the importance of the careers of esports players.

Keywords: esports; psychological skills; performance; sport psychology

Habilidades psicológicas en los esports: estudio cualitativo de jugadores individuales y de equipo

Resumen. El presente estudio cualitativo tenía como objetivo principal explorar las habilidades psicológicas clave que afectan al rendimiento de los jugadores en los esports. Un total de diez jugadores de diferentes esports, tanto individuales como en equipo, fueron entrevistados. El análisis de los datos se realizó a través de un análisis temático "CodeBook". Los resultados obtenidos apuntan a que hay tres dimensiones principales que vertebran el rendimiento óptimo de los jugadores que son: (a) Habilidades técnico-tácticas, (b) Habilidades psicológicas y (c) Hábitos saludables. Dentro de las habilidades psicológicas se encontraron 8 componentes: (a) Control atencional, (b) Control emocional, (c) Control de activación, (d) Comunicación, (e) Cohesión de equipo, (f) Control de pensamientos, (g) Control de objetivos y (h) Control Conductual. Además, se encontró cómo tema emergente las carreras que se han desarrollado dentro de los esports, donde todos los participantes siguen un patrón similar. Los resultados sugieren la importancia de la psicología del deporte para los esports, al tratarse de una actividad relacionada con el rendimiento, la similitud de las habilidades psicológicas encontradas con las del deporte tradicional, la importancia de trabajar la atención sostenida y afrontar el tilt y la importancia de las carreras de los jugadores de esports.

Palabras clave: esports; habilidades psicológicas; rendimiento; psicología del deporte

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Introduction

Although esports might seem to be a new phenomenon, their origin goes back to the beginnigs of the recreational use of video games (Stanton, 2015), which took hold between 1962 and 1972 (Bányai et al., 2018). The first esports event was held in 1972, with players competing in the video game *Spacewar* at Stanford University (Li, 2016). Since then, esports have become increasingly established in the world entertainment, having attained popularity with the general public (Fuster et al., 2014) and developed a competitive ecosystem (García-Lanzo et al., 2020). Sponsors and online streaming platforms have invested considerable resources to position themselves within the esports ecosystem in order to reach a young audience that continues to grow in size, with an increase forecast from the current global audience of 728.8 million to 920.3 million viewers in 2024 (Newzoo, 2021). This is evidence of esports' great social impact (Riatti & Thiel, 2021), which has sparked a great deal of interest in the field of psychology. In terms of psychological research, there has been a boom in scientific literature on the topic (Pedraza-Ramirez et al., 2020), while in the professional field, recent years have witnessed the establishment and definition of the role of sports psychologist within esports teams (García-Naveira & Cantón, 2020). Within the existing literature related to sport psychology and esports, there have been multiple focuses of interest, such as motivation (Bányai et al., 2018), passion (García-Lanzo & Chamarro, 2018), performance (Pluss et al., 2019), multidisciplinary work (Reitman et al., 2020), and the state of current research and its future challenges (Pedraza-Ramirez et al., 2020; Vera et al., 2019). However, there is little research and knowledge on the psychological aspects involved in the performance of players and teams (García-Lanzo et al., 2020; Pedraza-Ramirez et al., 2020). In this line of research, the most relevant topics are: (a) the relationship between training and performance in competitions (Nagorsky & Wiemeyer, 2020; Pluss et al., 2021), (b) the role of emotions in the performance (Behnke et al., 2020; Pérez-Rubio et al., 2017), and (c) the psychological skills needed to perform (Fanfarelli, 2018; Himmelstein et al., 2017).

As in traditional sports, in esports it is necessary to identify the key psychological skills at work in order to create specific training programs that optimize and enhance player performance (Trotter et al., 2021). Himmelstein et al (2017) divide the psychological skills displayed by League of Legends players into two main blocks: psychological skills for optimal performance and obstacles. Fanfarelli (2018), in a study of Overwatch players, divided skills into two categories: mechanical skills and *game sense* skills. If we go beyond the individual games to identify more general factors, the relevant skills related to performance would seem to be: (a) Mechanics, referring to the technique that players need in order to be able to correctly execute the challenges posed by the esport (e.g., mouse movement or specific combinations of keys), (b) emotional control, (c) *tilt* control (i.e., dealing with situations of frustration, anger and impotence that distract players and decrease their overall performance), (d) team communication, and (e) lifestyle management. However, neither of the two studies goes further, in the sense of proposing a model that relates the different skills with performance. Such a model could then be compared with models proposed in traditional sports, thus allowing for the creation of specific training programs for esports.

Due to this lack of structure and the absence of a model that allows researchers and psychology professionals to know how performance is achieved and maintained in esports, it is difficult to support or develop programs that allow players to optimize their performance. For this reason, there is a need to delve in greater detail into the psychological skills that are relevant to players in different esports to find a first model that is able to connect these psychological skills with optimal performance. The development of a theoretical model would allow the results to be contrasted and make it possible to draw connections between existing concepts in psychology and esports, while differentiating these established concepts from the newly emerging concepts in psychology that are specific to esports (Creswell & Miller, 2000; Pedraza-Ramirez et al., 2020). This study is intended to address this need. Its aim is to detect the psychological skills used by players in three of the main esports: (a) *League of Legends* (LoL), (b) *Hearthstone* (HS) and (c) FIFA, representative of the three most relevant esports genres both socially and competitively, the categories of games that attract the majority of professional esports players (Newzoo, 2021). This process will make it possible to create a first model that explains the relationship between optimal performance, psychological skills and other variables of esports players (e.g., skills related to technique or healthy lifestyle), thus allowing for the creation of specific and tailored psychological training programs and exercises. In order to relate psychological skills to performance, we will use the model proposed by Palmi and Riera (2017) as a basis. This model describes the optimal state of performance (OSP) of athletes using seven competencies that allow athletes to self-regulate in competition situations: (a) Activation control, (b) Attentional control, (c) Thought control, (d) Communication, (e) Goal control, (f) Behaviour control and, (g) Emotional control.

Method

Given that this study uses a qualitative methodology, it is important that we position ourselves within the field of knowledge. The perspective of the researchers is based on a post-positivist vision, where an analysis is intended to offer explanations and predictions, in this case about the performance of esports players, all while striving to ensure that there is a minimum of

human error and interpretive biases (Levitt et al., 2017). Due to the limitations in the rigor of traditional qualitative methodologies (Smith & McGannon, 2018), it was decided to carry out a thematic "CodeBook" analysis (Braun & Clarke, 2021). Thus, we base the analysis on previous literature (Palmi & Riera, 2017) to minimize the possible biases of researchers when identifying psychological skills. Finally, a flexible vision was adopted that would allow topics to be added or adapted to reality as it was reflected in the interviews, thus generating an inductive-deductive analysis methodology.

Participants

A total of 10 esports players, all men, were contacted because of their esports experience and career. Half of the players compete in team esports, and the rest compete in individual esports. All are currently active and represent clubs in Spain. The participants had a mean age of 20.3 years (SD=2.58), Spanish nationality and resided in: Albacete (2), Barcelona (4), Granada (1), Galicia (1) and Madrid (2). They have been playing their respective esports for an average of 5.8 years (SD=1.75) and 2.9 years (SD=1.91), competing online and in person in national and international tournaments (Table 1).

Instruments

A specific semi-structured interview was designed for this study. It is aimed at exploring the experiences and strategies used by the player to achieve good performance in training and competitions. There were also questions about the causes or variables that led esports participants to fail to achieve the desired results in competitions or during training. The interview was divided into three parts. The questions in the first part gathered information on: (a) the esport each participant played; (b) how he started to play it; and (c) how he has evolved to reach his current level, with special emphasis on experiences as a player and style of play. A second part delved into: (d) the skills needed to perform in training and competitions; (e) the main difficulties encountered that have prevented the participants from performing adequately and the strategies

used to deal with said difficulties; (f) skills he believed different esports had in common; and (g) skills that were unique to a specific esport.

Procedure

A list of esports clubs where there were direct contacts with players, staff (coaches or sports psychologists) or sports directors was drawn up. Once the list was made, an email was sent explaining the objectives of the study, the procedure and the benefits that said research would provide. Once the participants from these clubs had been recruited, the process was explained to each of them individually, and an informed consent document was sent to all the participants and managers of the club in order to comply with the ethical standards (voluntariness, confidentiality, benefits, etc.) established by the APA. A date was arranged to conduct the interview by the means they preferred (face-to-face or online). The interviews were conducted by an expert researcher in esports with years of experience in the applied field and in the use of semi-structured interviews. They were first audio recorded, lasting between forty and fifty minutes, and then transcribed verbatim. Once the study was finished, a session was held for the participants to explain the results and their implications for players and other agents involved in sports performance (Figure 1).

Figure 1. Study procedure.

Table 1. Sociodemographic data of the participants

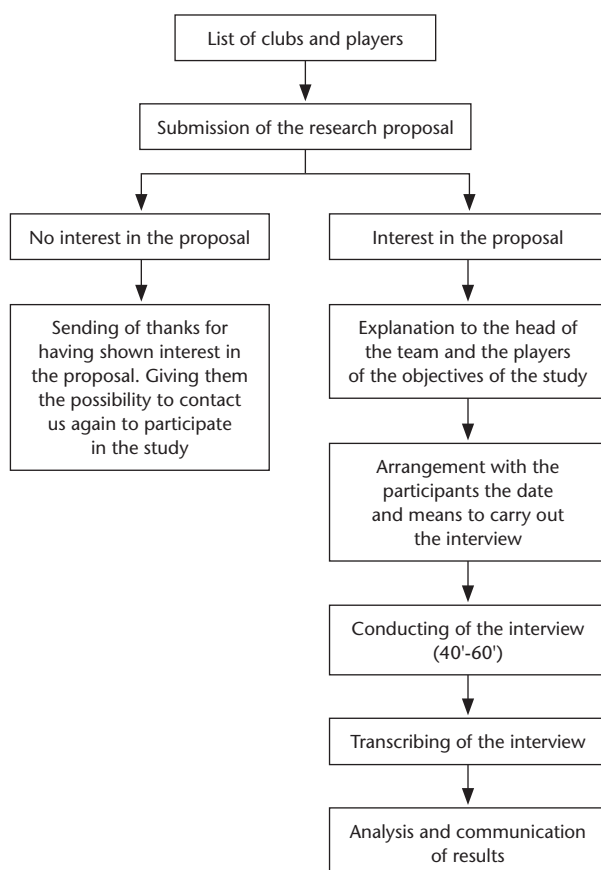| Participant	Age	Esport	Type	Years playing	Years competing
Player 1	17	*League of Legends*	Team	4	1
Player 2	22	*League of Legends*	Team	9	7
Player 3	22	*League of Legends*	Team	7	4
Player 4	23	*League of Legends*	Team	8	4
Player 5	18	*League of Legends*	Team	6	1
Player 6	24	*Hearthstone*	Individual	4	3
Player 7	21	*Hearthstone*	Individual	5	4
Player 8	21	*Hearthstone*	Individual	4	2
Player 9	17	FIFA	Individual	5	1
Player 10	18	FIFA	Individual	6	2

Data analysis

Data analysis was carried out through a "CodeBook" thematic analysis, using an inductive-deductive methodology. We used the EOR model to generate some initial themes and codes, but we maintained enough flexibility to make it possible to modify these categories based on the data obtained during the analysis (Braun & Clarke, 2021). Once the different codes were established for each of the skills detected, the codes were grouped into a series of broader skills and discussed between the different researchers, one an expert on esports and two with expertise in sport and performance psychology. The researchers attempted to come to a consensus to ensure that the categories generated were logical from the start. Once the skills had been categorized, the data were reanalysed to confirm that each of the codes corresponded to its assigned category and not to another category or to a new category. Once the main components were detected, the parts into which each component could be successively subdivided were analysed in detail until no more relevant subdivisions could be obtained. Finally, each obtained skill was defined according to the existing literature and the results. To ensure the descriptive validity of the results, the interviews were audio-recorded with different devices simultaneously and the transcripts and corrections were reviewed at three different times. For theoretical validity, higher order psychological skills were reviewed and defined considering the existing scientific literature in the field of sport psychology. The goal here is to guarantee the quality and rigor of the results obtained (Creswell & Miller, 2000). For data analysis, the software ATLAS.ti 8 was used.

Results

Components of optimal performance

From the analysis, we can see that the skills associated with optimal performance for esports players have been divided into three dimensions (Figure 2). First, there are technical-tactical skills, defined here as the skills and knowledge of a particular esport that are mostly specific to that sport, meaning they are not shared with other esports. This component can be divided into technique (e.g., "The mechanics, how well you move" or "*Time finishing*, is very important, know when to press the right button"), tactics (e.g., "Rotations, know-
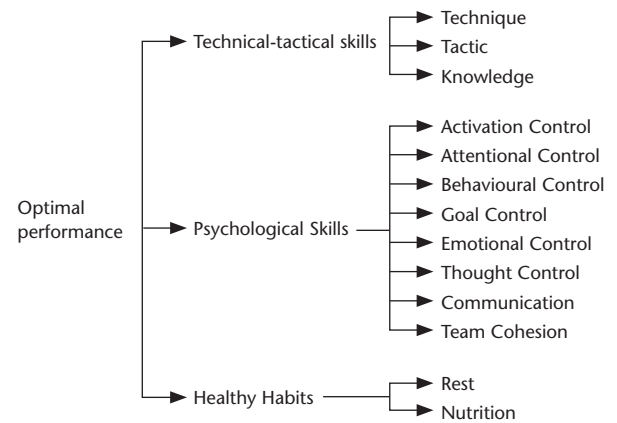

Figure 2. Components of Optimal Performance

ing where to *ward* or get vision in the enemy map" or "Play the cards based on what you want your opponent to think you have, sometimes even tricking them into thinking you have something strong") and knowledge (e.g., "You have to know the *metagame*", "Being good at it is not enough, because you also have to know why things are done" or "Now, for example, I'm focusing on getting to know the players better, their *stats*"). The second dimension refers to psychological skills, defined as the resources that allow players to have a good *mental* ability to face competition and training situations. This component is divided into a total of eight skills, which will be analysed in detail in the following section, because of their relevance and the fact that they are the object of study. The last dimension refers to healthy habits and the actions players take to care for themselves and maintain their health, especially in competitive situations (e.g., "That I do not feel bad, that I do not have pain, no stomach pain, no headache, nothing abnormal, the way I am now."). This dimension is divided into nutrition (e.g., "The body has to be well fed") and rest (e.g., "The body has to be rested").

Psychological skills

A count was made to find out the frequency of each of the skills, and an average of the frequencies was calculated to identify the skills that the participants found most relevant (Table 2). In order of importance, the psychological skills are: a) Attentional control, understood as players' ability to concentrate and direct their attentional resources to the specific action they are performing in the esport. It is especially important to

Table 2. Importance and components of psychological skills

Psychological skill	Mean	Participant description	Esport type
Attentional control	10.7	Concentration, "Play with intelligence", Actions of your teammates, "Here and now", etc.	Individual/Team
Emotional control	9.2	Tilt, Frustration, "Not wanting anything", etc.	Individual/Team
Activation control	7.9	Pressure, nerves, "trembling hands", etc.	Individual/Team
Communication	7.1	Quality, "No noise", Efficient, etc.	Team
Team cohesion	6.8	Fellowship, Support, Commitment, Coordination, etc.	Team
Thought control	5.4	Actions of the rival, own actions, "Do not overthink", etc.	Individual/Team
Goal control	2.7	Planning, "Know what we came for", etc.	Individual/Team
Behavior control	1.2	"Know how to behave", "Hold composure", Temper, etc.	Individual/Team

Table 3. Psychological skills and quotes from participants

Psychological skill	Quotes from team esport players	Quotes from individual esport players
Attentional control	"A trade that you do instinctively, not because... not because I thought he had one skill or another, you just jump in"	"I know everything that is happening around me"
Emotional control	"There are degrees of tilt, I control myself with my team... but I remember once I started yelling at my ADC for a prio. Control was lost and we lost the game..."	"I really get sad about losing a game, I get sad... but at the moment it happens... It's anger, but very, very, very big."
Activation control	"The difference between being at home and in person is nerves."	"On the other hand, maybe in a competition, if I have [my opponent] in front of me, the nerves appear. I realize that I am playing against him, and he is a meter away from me. He's there and the tension is there."
Communication	"Communication is the most important thing if you play as a team" or "Communication has to be fluid so that each one contributes their own"	–
Team cohesion	"I would say that having confidence in the teammates you have is very good. At least when I was in... I had confidence in the four players, and it showed."	–
Thought control	"Well, just like in those games you drop 200 points, and you can't stop thinking... Shit, shit, shit"	"When things go wrong, or at least in my situation, there are many bad things and it's like everything good is covered up and everything bad flows into my head and vice versa"
Goal control	"There are people who can help you motivate yourself, as is my case... This month I have to be at this level, try to win the tournament... "realistic", because in the end, being a professional or not is going to be decided a bit by the contacts I have as well as luck and if you are in the right place at the right time, so my goals are short-term goals."	"When I do something, I set a goal. I try to reach that goal. I don't usually try to overdo it or stay below what I can do, but to feel satisfied and perfect."
Behavior control	"Don't show your anger when you're in an official competition... you have to give an image as the club and as a player, not to be toxic"	"Keep your composure despite adversity"

Note: *Trade* = Trade damage with the opponent without the intention of eliminating him/her, which aims to inflict more damage on the opponent than he/she inflicts on you. *ADC*= Position of *Attack Damage Carry*, the one in charge of doing massive damage to rivals. *Prio* = Ability of the player to put pressure on the opponent and transfer him or her to other positions.

sustain this ability during substantial stretches of time, because during competition players must consistently maintain this focus for approximately forty-five minutes at a time. (b) Emotional control, which is defined as the ability to manage adverse situations in esports, especially control of *tilt*, in order to ensure that these situations do not affect performance while training or competing. Here, *tilt* is defined as a set of negative emotions (frustration, anger, fear, despair, etc.) that have an intense impact on all other areas of performance. (c) Activation control is the ability to face situations of great psychological stress (e.g., tournaments and competitions) such that they do not affect performance, especially mechanical performance. (d) Communication is the ability to establish effective communication channels and patterns in order to keep the team informed of both individual and group situations. This, in turn, makes possible effective and economical decision making by the *In-Game leaders* or *Shotcallers* (i.e., captains within the game). (e) Team cohesion, understood as a player's ability to handle internal team situations and establish cooperative ties between the different teammates. (f) Thought control, which is the player's ability to deal with negative internal comments about his or her level of play or those of teammates. These thoughts can affect players' self-esteem when it comes to their views of their technical skills and tactics, and they can sometimes undermine their emotional stability. Normally, the thoughts arise from players' own actions or from mistakes by teammates that upset the player. (g) Goal control, which consists of knowing how to detect and plan the steps to follow to achieve personal goals (e.g., reach a high *Elo*, manage to dominate a *matchup*, change from an offensive style to a defensive one) and organizational goals (e.g., ranking top 8 nationally or internationally, achieving a minimum impact on the networks), and (h) Behavioural

control, defined as the player's ability in competitive situations not to show any type of reaction that could give information to the opponent about their current game situation or that could harm their *performance* during the course of the competition. We can see some examples of each psychological skill mentioned above in Table 3.

It is important to mention that communication and team cohesion skills are exclusive to team esports and were never mentioned by individual players. It should also be noted that all psychological skills, although they share the same root, must be always adapted to the specific esport, since each player describes and identifies the key situations and moments according to their experiences. For example, when it comes to attention, you must train according to the duration of the competition. A *League of Legends* game lasts around forty-five minutes, while *Hearthstone* takes around fifteen minutes. Therefore, psychological training must be adapted to the characteristics of each sport to optimize its effectiveness.

Esports careers

An emerging theme detected in the analysis was the paths that the participants have followed to reach their current level. Most of the players began to participate in their respective esports due to contact with someone close to them (e.g., family or friends) during adolescence. At first it was difficult for them to understand the complexity of the esport (e.g., "I didn't know anything"), but little by little they acquired the necessary knowledge, until they realized that they had a certain talent and were good at it, especially mechanically (e.g., "I entered... competitive because I was good at this"). At that moment, they began to compete and gained experience, until they noticed that they were no
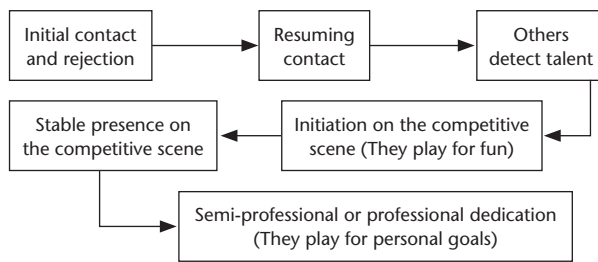
Figure 3. Career development of an esports player

longer playing for fun but because they wanted to or dedicate themselves professionally to the activity (e.g., "There comes a time when you no longer *pick* a champion because you like it, but because it is useful to the team"). In Figure 3, we can see a summary of the career paths followed by the participants.

Discussion

The aim of this study was to detect the psychological skills relied upon by players and to examine the relationship between these skills and performance. We have identified three essential blocks. A first block is made up of technical-tactical skills, an area where the different coaches (e.g., *Head Coach*, *Strategic Coach*, *and Analyst*) have a fundamental role in training players to improve technique, assisting in their acquisition of tactics and expanding their specific knowledge of the esport in competitive situations. In all these learning processes, sport psychologists can take on an advisory role. The second large block is psychological skills. It should be highlighted that it is very similar to the structure of psychological skills proposed by Palmi and Riera (2017). It is worth noting that certain skills such as visualization were not mentioned by any of the participants. Therefore, it would be interesting conduct a more detailed investigation of the applicability or lack of these skills within esports. In addition, it emerged that the participants placed importance on the communication skills. This responsibility is usually attributed to coaches, but in an environment where non-verbal communication can hardly be used, everything is mediated through language. This area has potential for sports psychologists, who could work to shape communication strategies and improve group dynamics by training both players and coaches, thus helping them to achieve effective and economical communication (Vives-Ribó & Rabassa, 2020). The other psychological skills are similar to those described in previous studies (Fanfarelli, 2018; Himmelstein et al., 2017), and the importance of attention control and emotional control should be highlighted, since both have received significant attention and were prominent in the results. Specifically, importance was attached to maintaining attention for periods of time around forty minutes and to knowing how to deal with situations that cause *tilt*. All this justifies the figure of the sports psychologist to work within an esports team, as these activities are aimed at high performance and have

great similarities to traditional sport (García-Lanzo et al., 2020; Pedraza- Ramirez et al., 2020). It should also be taken into account that, at a technical-tactical and psychological level, the three esports studied belong to very different game genres and therefore, although they share some similarities (e.g., both in *League of Legends* and in FIFA, training of attention is considered important), strategies and training must be adapted to the needs of each esport (e.g., The *League of Legends* are games of forty minutes of constant action with multiple stimuli, while *Hearthstone* are quick games of fifteen minutes, with few stimuli).

Finally, we have seen that the careers of the participants in esports are very similar to each other and tend to follow patterns along the lines of the phases proposed by Kim and Thomas (2015), and of career models in traditional sport (Hallmann et al., 2019). These findings are relevant, since they open up a possible area of intervention to sports psychologists who study the sports careers of players and advise them (García-Naveira & Cantón, 2020; Pedraza-Ramirez et al., 2020).

Limitations and proposals for the future

The study has some limitations. First, there was a narrow variety of genres, which limits the generalizability of the results to emerging genres, such as *Battle Royale*, especially in relation to psychological skills with less relevance. Secondly, the study is still qualitative, pointing to a need for quantitative research as proposed by Pedraza-Ramirez et al. (2020). Third, the sample is made up only of men, reducing the representativeness of the sample.

Finally, as future lines of research, it would be interesting to delve into technical-tactical skills in greater detail, to discover in detail the technical, tactical skills and knowledge required for each esport so as to be able to work with coaches to design specific training plans for each component. It is also necessary to investigate the internal communication of the teams, both to examine how it works and to identify the keys to achieving good in-game communication. Finally, it is necessary to design and evaluate specific psychological training programs for esports that address the needs of each esport.

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