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Exploring contemporary occupational esport athletic career paths and their sustainability

Badanie współczesnych ścieżek kariery esportowej i ich zrównoważonego rozwoju

Doctoral dissertation written under the direction of:
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Abstract

Esports is a contemporary phenomenon and an industry encompassing sports, entertainment, and media, employing hundreds of thousands of people worldwide. However, research on esports remains fragmented, particularly regarding esports athletic careers. The main aim of this dissertation was to investigate the career trajectories and career competencies of esports athletes, systematize the existing research, and validate it against the perceptions of professionals engaged in this industry. Thus, a mixed-methods design was adopted, combining a scoping literature review (N = 159) with two qualitative studies: an open-ended survey with amateur esports athletes (N = 156) and semi-structured interviews with industry stakeholders (N = 54). The first study synthesized existing findings on career pathways and competencies of esports athletes. The second study examined how these careers are perceived by individuals not professionally involved in esports. The third study contrasted these insights with the perspectives of industry stakeholders. Together, these studies provide both theoretical grounding and practical validation for the Esports Athletic Career Model (eSCM).

This model consists of two parts: the eSCM-P, which describes the stages of an esports career (initiation, development, mastery, and discontinuation, complete with recursive and non-linear progressions), and the eSCM-C, which specifies the knowledge, skills, abilities, and "other characteristics" (KSAOs) required for success, with a strong emphasis on contextual influences such as region or gender, that facilitate or impede career progression. This dissertation contributes to career studies, esports research, and occupational psychology by integrating linear and non-linear career perspectives and aligning with established frameworks. From a practical perspective, it provides guidelines for practitioners, athletes, coaches, and policymakers on how to enhance the career sustainability of esports athletes and their chances of success. Overall, this dissertation offers insights not only for esports but also for other chaotic and precarious contemporary careers.

Streszczenie

Esports to współczesne zjawisko oraz branża obejmująca sport, rozrywkę i media, zatrudniająca setki tysięcy osób. Jednakże badania nad esportem pozostają fragmentaryczne, w szczególności w zakresie karier zawodników esportowych. Głównym celem niniejszej rozprawy było zbadanie trajektorii karier i kompetencji zawodowych esportowców, usystematyzowanie istniejących badań oraz ich weryfikacja w świetle opinii profesjonalistów związanych z tą branżą. W tym celu przeprowadzono trzy badania, łącząc przegląd literatury (N = 159) z półotwartym badaniem kwestionariuszowym (N = 156) oraz wywiadami półstrukturyzowanymi (N = 54). Pierwsze badanie analizowało istniejące badania dotyczące ścieżek kariery i kompetencji esportowców. Drugie analizowało, jak te kariery postrzegane są przez osoby niezwiązane zawodowo z esportem. Trzecie zestawiło uzyskane wcześniej wyniki z perspektywą interesariuszy branży. Łącznie badania te dostarczyły zarówno podstaw teoretycznych, jak i praktycznej walidacji dla zaproponowanego eSCM.

Model ten składa się z dwóch części: eSCM-P, który opisuje etapy kariery esportowej, oraz eSCM-C, który określa wiedzę, umiejętności, zdolności i inne cechy (KSAO) wymagane do osiągnięcia sukcesu. Szczególny nacisk położono na znaczenie czynników kontekstowych, takich jak kraj pochodzenia czy płeć, które mogą ułatwiać lub utrudniać rozwój kariery. Rozprawa sytuuje się na styku badań nad karierą, esportem oraz psychologią pracy, łącząc perspektywy liniowe i nieliniowe oraz wpisując się w istniejące ramy teoretyczne. Z praktycznego punktu widzenia dostarcza ona wytycznych dla praktyków, zawodników, trenerów oraz decydentów, wskazując, jak zwiększać trwałość karier esportowych i szanse na sukces osób podejmujących się tych karier. Ogólnie rzecz biorąc, rozprawa ta oferuje wgląd nie tylko w specyfikę esportu, lecz także w inne współczesne kariery charakteryzujące się chaotycznością i niepewnością.

1. Introduction[1]

Video games have existed for around 80 years now (Bányai et al., 2018), progressing from simple experiments in the 1940s to globally networked, highly sophisticated entertainment forms (Ivory, 2015; Peckham, 2008; Pedraza-Ramirez et al., 2020). These early attempts at creating video games had minimal impact on their future shape, until the creation of *Pong* (1972)—a game in which players simply bounced a virtual ball back and forth. From such modest beginnings, video games have grown into one of the most complex and influential cultural forms of the modern era. Contemporary games possess complex gameplay mechanics, elaborate graphics, and narratives rivaling those of literature and film. For example, *Planescape: Torment* is often praised for its rich philosophical storytelling, while *Disco Elysium* for its reflection on different political stances and its representation of the devastating impact of alcohol addiction.

Modern gaming offers players countless possibilities. They can control gigantic armies in the *Total War* series, or inhabit richly detailed fantasy and science-fiction worlds (*Deus Ex*; *Gothic; Prey; the Witcher*). The players can collaborate and compete with people from all around the world in games like *Counter Strike, Dota 2, League of Legends* or *World of Warcraft.* They can create and manage a household (*The Sims*), or even be a dictator of a banana republic (*Tropico* series). It should not be surprising, then, that video gaming is now one of the most popular leisure activities in the world. For instance, in Poland, almost 67% of the population between 15 and 65 years old played video games in 2022 (Bobrowski et al., 2022), with close to an even split between genders. In China around 50% of the population

[1] This chapter makes use of some heavily modified fragments used in the following publications:

A. Trepanowski R., Wu L., Hamari J. (2025a). Competences, skills, knowledge and other factors influencing esports athletic careers progression. [in review]
B. Trepanowski R., Wu L., Hamari J. (2025b). Esports career model: a mixed methods review. [in review]
C. Trepanowski R., Wu L., Hamari J. (2025c). Is the esports industry sustainable? An interview study [in review]
D. Trepanowski R., Li W., & Hamari J. (2024a). Perceptions of esports and esports athleticism among gamers. In *International GamiFIN Conference* (pp. 10-22). CEUR Workshop Proceedings.

are gamers (Ye, 2023). In the USA, the number of gamers reaches around 64% of the population (Entertainment Software Association, 2025). Globally, in 2025, almost 3.32 billion people played video games (Duarte, 2025). As such, even in regions that, in popular opinion, are not associated with video gaming, such as the Middle East and Central Africa, video games are quite popular (e.g., African Games Report, 2025; Hussain et al., 2021). Thanks to this diversity of possibilities and the constantly growing popularity of video games, they have become an important subject of academic study, attracting research from psychology, psychiatry law, education, media studies, and even philosophy (e.g., Cullen, 2018; Hong, 2023; Meng-Lewis et al., 2022; Ridenhour, 2019; Scott et al., 2021; Trepanowski et al., 2024a; Trepanowski et al., 2024b).

Scholars have investigated a wide range of questions about gaming: what motivates people to game (Przybylski et al., 2010), what emotions are experienced during play (Hemenover & Bowman, 2018), how in-game content can influence real-world behavior (e.g., Greitemeyer & Mügge, 2014; Greitemeyer et al., 2012), and many more. Games have also been shown to be effective tools for education, long-term behavior change (Hamari et al., 2014) or for enhancing mental health (Halbrook et al., 2019). On the other hand though, video game engagement can have a number of adverse effects, such as overuse injuries, sleep difficulties, maladaptive coping and so forth (e.g. Lee et al., 2021; Madden & Harteveld, 2021; Paravizo & de Souza, 2021; Pérez-Rubio et al., 2017). It can even lead to game-specific medical issues, especially gaming disorder, commonly known as video game addiction (ICD-11; World Health Organization, 2022). Despite this growing body of literature, many aspects of gaming remain underexplored. One such area—esports—is the primary focus of this dissertation, particularly the careers of esports athletes. Put differently, esports athletic careers serve herein as an example of how contemporary forms of careers may not fit existing career models.

Careers have long been a central topic of research in psychology and the social sciences, seen as an integral element of human life, influencing identity development and social participation. Early career theories often conceptualized careers as linear progressions through predictable stages (e.g., Super, 1980), but later perspectives challenged this view, recognizing careers as non-linear, dynamic, and sometimes chaotic (e.g., Pryor & Bright, 2011). Furthermore, careers may differ between sectors—what holds true for medicine or law may not apply to entertainment or sports (e.g., Poell et al., 2018; Schellenberg et al., 2016). The rapid changes in the global economy over recent decades have accelerated the emergence of entirely new professions, many of which defy traditional models. Esports athleticism, understood as organized, competitive video gaming, represents one such profession.

At the simplest level, esports can be defined as a sport in which athletes manipulate the state of an electronic or digital system, typically in the form of competitive video gaming (Hamari & Sjöblom, 2017; Wagner, 2006; Pedraza-Ramirez et al., 2020). Competitions span a broad spectrum of game genres, including First-Person Shooters (FPS; e.g., *Counter-Strike*, *Quake*), Multiplayer Online Battle Arenas (MOBA; e.g., *Dota 2*, *League of Legends*), Real-Time Strategy games (RTS; e.g., *StarCraft 2*), and sports simulations (e.g., *EA FIFA*, *EA NHL*). Fighting games (*Mortal Kombat*, *Super Smash Bros.*), battle royale titles (*Fortnite*, *PUBG*), Massively Multiplayer Online games (*World of Warcraft*, *World of Tanks*), and collectible card games (*Hearthstone*, *Gwent*) also form part of this competitive landscape. Beyond these, esports can include exergames and virtual sports (*Zwift*), online tabletop games (*Chess*, *Scrabble*), turn-based strategy games (*Heroes of Might and Magic*), and racing simulators (*F1*).

Esports competitions encompass a wide range of formats, from solo efforts to team-based play. They may involve facing other players (player-versus-player, PvP) or tackling challenges set by the game or its community (player-versus-environment, PvE). The

latter is seen in ‘speedrunning’ or ‘achievement hunter’ communities (e.g., Witkowski & Manning, 2019), where people manage to compete, even though the games involved were not designed with competition in mind (e.g., *Super Mario Bros*.). Expanding the definition further, esports can include different modalities, especially in VR games, exergames or virtual sports, such as cycling esports (e.g., *Zwift*) or virtual triathlons, which blend traditional and virtual competition. To provide a more vivid example of the later, during a virtual triathlon, the competition may comprise: (1) running on a treadmill, to which a tablet with a game-like running application is installed; (2) riding on an e-bike, with a similar set-up; and (3) traditional swimming, which cannot yet be facilitated with technology. This form of competition can also be defined as esports.

In fact, the first attempt to define esports goes back to Wagner’s definition (2006) which claims that “Esports is an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies”. In a recent study, Formosa et al., (2022) analyzed 461 peer-reviewed papers containing definitions of esports. The most-cited definition was proposed from the perspective of human-computer interaction, where esports was described as “a new form of sport where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the eSports system are mediated by human-computer interfaces” (Hamari & Sjöblom, 2017). From their thematic analysis, Formosa et al., (2022) identified nine major dimensions of current esports definitions: 1) competitive gaming, 2) leisure activity, 3) organized activity, 4) professionalism, 5) spectators and fans, 6) skills and training, 7) esports as an extension of gaming, 8) esports as a sport item, 9) gambling. Among those, competitive gaming, organized activity, professionalism, and esports as a sport were the most mentioned dimensions.

The esports industry mirrors traditional sports to some extent, featuring sports federations, tournaments, league structures, and a superstar market. Many professions in traditional sports, such as coaches, sports psychologists, and tournament organizers, also exist in esports (Pedraza-Ramirez et al., 2020; Trepanowski et al., 2024a; Trepanowski et al., 2025a; Ward & Harmon, 2019; Wagner, 2006). However, differences exist, which notably include limited recognition and acceptance of esports as a sport, the absence of collective bargaining bodies, and the lack of a grassroots ladder structure for competition (e.g., Jenny et al., 2016; Parry, 2018).

Economically, this industry has grown at a staggering pace, with revenues projected to approach USD 2 billion in 2025 (Gough, 2023). This growth, however, according to industry reports, is of unstable nature (Nyström et al., 2022). In recent years, the industry has experienced a substantial outflow of funding, leading to increased layoffs, especially in regions where the esports industry is well-developed (Šimić, 2024). This so-called “esports winter” (Mass, 2023) raises questions about how to enhance the industry's sustainability and what solutions can and should be implemented. Potential answers include improving equality among esports workers, creating new support and educational structures, providing stable career development pathways, and establishing collective bargaining bodies (e.g., Fletcher, 2020; Holden & Baker, 2019; Hollist, 2015; Jenny et al., 2021; Madden et al., 2021; Schelfhout et al., 2021).

The biggest indicator of this growth, aside from profitability, is the recognition esports has received. On the one hand, it has become an important element of modern mainstream culture, transcending boundaries of a subculture / youth culture (Adamus, 2012; Wagner, 2006). One proof of this lies in esports being confirmed as a medal sport at the 19th Asian Games in Hangzhou (Olympic Council of Asia, 2022), where from September 24th to October 2nd, 2023, 488 esports athletes from 31 participating countries competed for gold

medals of 7 esports titles (e.g., League of Legends and DOTA 2). Further, even the International Olympic Committee took interest in esports. First, by including esports in their agenda for Olympic development (International Olympic Committee, 2020), then by creating Olympic Esports Week in Singapore (International Olympic Committee, 2023), and finally by announcing the Olympic Esports Games, which were to take place in Riyadh, Saudi Arabia, in 2025 (International Olympic Committee, 2024), but have been postponed for 2027 (APNews, 2025). Esports is also acknowledged by the United Nations and European Union as having potential to contribute to sustainable development agendas (European Parliament, 2022; Global Esports Federation & Yunus Sports Hub, 2023).

At the heart of esports are the professional esports athletes—people who compete professionally in video games, sometimes as a full-time job (Scholz, 2020). Since the mid-2010s, becoming a professional esports athlete has emerged as a dream job for many in the younger generations (Bruce, 2021; eNET, 2017; Jiayin, 2020), offering opportunities for self-development, financial sustainability, and reputation building (Taylor, 2012; Ward & Harmon, 2019). Yet the reality is often more precarious. Esports careers are typically short-lived, highly volatile, and influenced by factors far beyond individual skill—including publisher decisions, market shifts, and organizational politics. Common challenges include extreme performance pressure (Leis & Lautenbach, 2020), unstable income (Griffiths, 2017; Hollist, 2015), inadequate labor protections (Paravizo & de Souza, 2021), and health risks both physical and psychological (Lam et al., 2020; Tholl et al., 2022). Many esports athletes struggle to sustain themselves solely through their careers due to the uncertain income and intensely competitive nature of the industry (Griffiths, 2017; Hollist, 2015; Ward & Harmon, 2019). These challenges, particularly in social and economic areas, can lead to premature career termination and ultimately affect the overall sustainability of the industry (e.g., Nyström et al., 2022).

By attempting to learn about the occupational careers of esport athletes and their sustainability, this work fits into the research areas of cyberpsychology, work psychology, and sport psychology. By integrating insights from career theory, sports science, and the unique dynamics of the esports industry, it seeks to understand how such careers develop, what competencies are essential for long-term success, and how structural and contextual factors influence both career and industry sustainability. This chapter first introduces the main concepts of interest, including different career definitions and models, both traditional and contemporary. It then presents the aims and research questions. Finally, it outlines the research design and provides a summary of the dissertation's structure.

1.1 Classical and contemporary career models

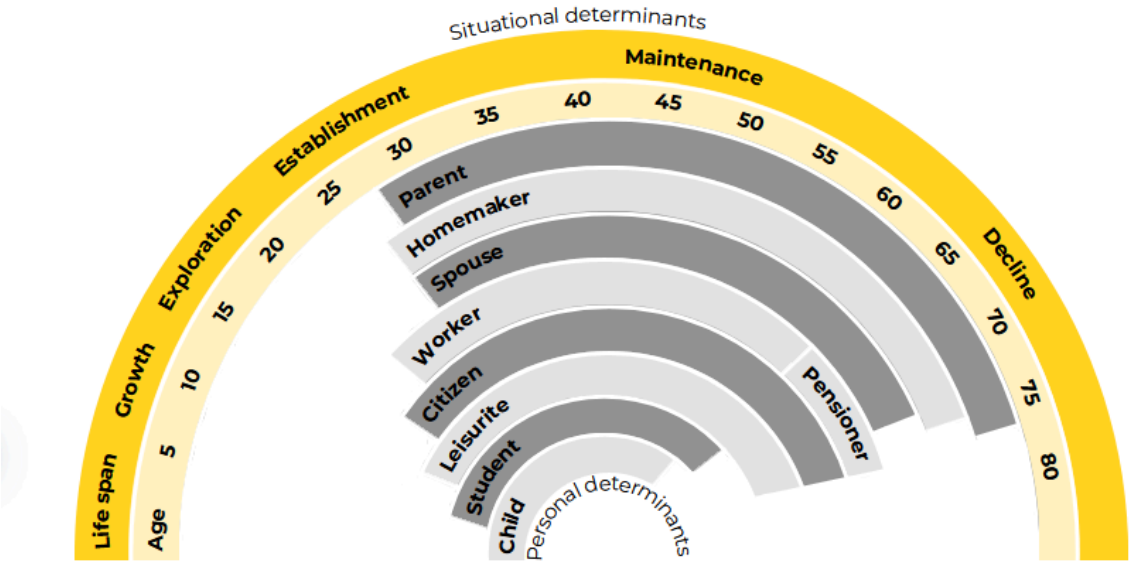
1.1.1 Linear approach

Arthur et al. (1989; 2005) describe career development as the evolution of an individual's (work) experiences over time. In contexts characterized by a high degree of institutionalization and a low degree of entrepreneurship, careers have been viewed as linear progressions through predetermined stages (Holland, 1985), emphasizing stability and predictability (Meng-Lewis et al., 2022). This stage-based thinking assumes that career development unfolds in a sequential, largely irreversible manner, with clear markers of entry, progression, and eventual exit from the professional sphere. A few notable examples of such perspectives include Super's Life-Span Life-Space Theory (Super, 1980), the Theory of Occupational Choice (Ginzberg et al., 1951), and, to some extent, the Dreyfus Model of Skill Acquisition (Dreyfus & Dreyfus, 1980; Dreyfus, 2004). In sports, the Holistic Athletic Career (HAC) model (Wylleman & Lavallee, 2004) is one of better known linear perspectives. To bring this type of career understanding a bit closer, these examples are shortly discussed further.

Donald Super's Life-Span Life-Space Theory (Super, 1980; see Figure 1) is one of the most influential career models ever developed. It emphasizes that career development is a lifelong process shaped by the interaction of personal growth, life roles, and social context, with self-concept being a central idea of this model (e.g., Hunt & Rhodes, 2021; Super, 1980).

Figure 1

Life-Career Rainbow (Super, 1980)



Note. Created by the author, based on Super (1980)

In this view, career can be described as "the life course of a person encountering a series of developmental tasks and attempting to handle them in such a way as to become the kind of person he or she wants to become" (Super, 1990, pp. 225-226; as cited in Fawcett, 2023). Super argued that a career progresses through five stages: *growth* (childhood and early adolescence, where interests and abilities begin to form), *exploration* (adolescence and early adulthood, where individuals investigate career options), *establishment* (early to

mid-adulthood, where individuals secure and stabilize in a chosen role), *maintenance* (mid to late adulthood, focusing on preserving status and adapting to changes), and *decline* (late adulthood, where career output is reduced and individuals prepare for retirement).

This theory also incorporates a rather unique notion of "life space," which refers to positions and roles an individual holds in society. It recognizes that individuals simultaneously occupy multiple roles—such as worker, student, parent, citizen, and so forth—that evolve and overlap across the lifespan. The importance, or even presence, of particular roles changes depending on the stage of life an individual is in. Each role is played in different "theaters", including, most importantly, in the following order: (1) the Home; (2) the Community; (3) the School; and (4) the Workplace; with other possible theaters to play one's roles in (e.g., the Church or the Club). Some theaters are more typical for specific roles, however, one will not always play every role or play in a given theater (Super, 1980). For instance, a person may never become a parent thus this role becomes non-existent in their life; likewise, one may never join the workforce, thus never participate in the Workplace theater. Each role comes with its own performance expectations (Hunt & Rhodes, 2021; Super, 1980), that influence later experiences. In consequence, vocational identity and career progression are rooted in early life experiences (Diemer & Blustein, 2006). As such, this perspective shows that career development is not only a matter of occupational progress but also of role integration and adaptation in different life contexts.

A slightly earlier but also highly influential stage-based model, the Theory of Occupational Choice (or Vocational/Career Choice Theory) was developed by Ginzberg and colleagues (Ginzberg, et al., 1951; Ginzberg, 1972; Ginzberg, 1988). Originally, this theory suggested that career decision-making is an evolving, if not irreversible process, where one's career choice changes with one's development and life experiences, as well as due to the influence of the external world. As such, this theory considers both internal and external

factors as affecting career development. Ginzberg argues that a career unfolds in a predictable sequence of stages: (1) the fantasy stage, (2) the tentative stage; and (3) the realistic stage. The fantasy stage occurs in childhood and lasts up to about age 11. In this stage, career ideas, not yet true choices, are playful, unconstrained, based on one's own imagination. As children do not understand the "adult world" and the realities of work, they think in terms of fame, excitement, or the uniqueness of their career ideas, often influenced by culture and the world around them. Thus, they somewhat idealize work. The second stage, the tentative stage, lasts from about 11 years old until 17. Here, adolescents become more realistic, and their career-related thinking starts to be more based not on dreams but rather on other factors. These factors can be conceptualized in a staged manner, including: (1) interest (becoming aware of one's talents); (2) capacity (evaluating one's possibilities and competencies); (3) value (juxtaposing career choice against personal values); (4) transition (undertaking action in the direction of a given career choice). The last stage, the realistic stage, starts at 18 years old and extends into adulthood. Herein, earlier career explorations lead to a commitment to a particular career path, based on self-concept, market structure, and so forth. This stage is mostly embedded in realistic appraisal of one's choice. Nevertheless, choices made at this stage are not final, and career paths can always be changed. However, in later revisions (Ginzberg, 1972; Ginzberg, 1988) Ginzberg softened the rigidity of the original framework, recognizing that career choice can extend throughout the lifespan, with stronger focus on education, social factors, and economic realities. Still, the model retains a fundamentally linear orientation, describing career development as a progression through identifiable stages that gradually narrow broad preferences into concrete occupational commitments.

A more competency focused model is the Dreyfus Model of Skill Acquisition (Dreyfus & Dreyfus, 1980; Dreyfus, 2004; Table 1), which conceptualises learning as a progression through five qualitatively distinct stages: (1) novice, (2) advanced beginner, (3)

competent, (4) proficient, and (5) expert. This model was initially developed to describe skill mastery process, regardless of skill type (e.g., chess, piloting, playing games, swimming). It emphasises how individuals move from rigid adherence to rules and context-free principles toward a more intuitive, context-sensitive performance.

Table 1

Five stages of skill acquisition (Dreyfus & Dreyfus, 1980)

Skill level	Components	Perspective	Deciding	Understanding
Novice	Context free	None	Analytic/ Rational	Detached
Advanced beginner	Context free and situational	None	Analytic/ Rational	Detached
Competent	Context free and situational	Chosen	Analytic/ Rational	Detached; involved outcome
Proficient	Context free and situational	Experienced	Intuitive/ Rational	Involved
Expert	Context free and situational	Experienced	Intuitive/Arational	Involved

Note. The table was adapted from Dreyfus (2004) and Hall-Ellis & Grealy (2013)

At the novice stage, learners depend heavily on abstract or context-free rules and guidelines, often applying them rigidly and without a sense of the broader context. Without instructions, novices struggle; at low skill levels, they are not yet able to adapt and improvise. As they progress to the advanced beginner stage, they start recognizing situational aspects through experience, applying learned maxims and examples to guide performance while still relying on external instruction. Nonetheless, advanced beginners, while a bit more adaptive, tend to struggle in new, unknown situations. At the third stage, the competent stage, individuals begin to see issues more holistically. They learn to plan, prioritize tasks and face the challenge of information overload. They develop the capacity to take responsibility for choices and become emotionally involved in outcomes, which marks a shift toward deeper

engagement. Further advancement requires learning to take more risks and to leave rules behind. The proficiency stage emerges when individuals' performance becomes more intuitive and does not require guidelines and constant double-checking. Performance outcomes now depend on more than just following guidelines, but also on one's own choices. Work at such a skill level is highly emotionally involving, often perceived as "one's own". However, individuals at this stage may still deliberate about the appropriate response. Finally, at the expert stage, individuals achieve an immediate, intuitive grasp of what needs to be done, acting fluidly and without reliance on explicit rules, much as a chess grandmaster or experienced driver responds seamlessly to complex situations.

This model has been widely applied in career development research. A prime example is Patricia Benner's (1984) adaptation of the model to the nursing profession. In Benner's adaptation, nurses develop clinical competence not only through formal training but also through experiential learning in real-world contexts. The principles underlying the Dreyfus model—incremental competence acquisition, the expansion of professional roles, and the interplay between explicit and tacit knowledge—can be readily applied in other professions with structured competency hierarchies. This makes the model relevant not only to medicine or traditional skilled domains, but also to sports and esports, where careers often involve structured training, performance under pressure, and gradual mastery of complex skills.

In the context of this dissertation, the Holistic Athletic Career (HAC) model by Wylleman and Lavallee (2004; Figure 2) is particularly relevant, as it applies to sport-related careers and has been adapted in esports research quite widely (e.g., Hong, 2023; Hong & Hong, 2023; Salo, 2017). Drawing on Bloom's (1985) work on talent development, the HAC model conceptualises athletic careers as a series of transitions—events or phases that reshape behavior, self-perception, and life structure—across multiple developmental levels or contexts: (1) athletic (sport-specific milestones); (2) psychological (cognitive and emotional

development); (3) psychosocial (relationships and social networks); and (4) academic/vocational (education and parallel career pursuits). Later adaptations added (5) financial and (6) legal layers (Stambulova, 2012; Stambulova et al., 2021; Wylleman et al., 2013), reflecting the increasing complexity of elite sports careers. Importantly, HAC is not a simple stage model. It recognizes that transitions between stages may be normative (expected, age- or level-related), non-normative (unexpected events), or even "non-events" when anticipated moves do not materialise, and these changes can be synchronised or desynchronised across domains (Schlossberg, 1981; Wylleman & Lavallee, 2004; Wylleman, et al., 2004). While initially more rigid and sequential in design, later adaptations of HAC (e.g., Stambulova, 2012; Wylleman et al., 2013) have incorporated greater flexibility, acknowledging that real-world careers can deviate from strict linearity.

Figure 2

The Holistic Athletic Career Model (Wylleman & Lavallee, 2004)

<table>
<tr><td>Athletic development</td><td>Initiation</td><td>Development</td><td colspan="2">Mastery</td><td>Discontinuation</td></tr>
<tr><td>Psychological development</td><td>Child</td><td>(Young) adolescent</td><td colspan="3">(Young) adult</td></tr>
<tr><td>Psychosocial development</td><td>Parents
Siblings
Peers</td><td>Peers
Coach
Parents</td><td colspan="2">Partner
Coach
Team members</td><td>Family – Peers
(Coach)
Colleagues</td></tr>
<tr><td rowspan="2">Academic / vocational development</td><td rowspan="2">Primary education</td><td rowspan="2">Secondary education</td><td colspan="2">(Semi) prof. athlete</td><td rowspan="2">New career</td></tr>
<tr><td>Higher education</td><td>(Semi) prof. athlete</td></tr>
<tr><td>Financial development</td><td>Family</td><td>Family
Federation</td><td>Federation/NOC
Sponsor</td><td>Family</td><td>New employer</td></tr>
<tr><td>Legal development</td><td colspan="2">Minor</td><td colspan="3">Adult</td></tr>
</table>

Note. Created by the author, based on Wylleman & Lavallee (2004), Wylleman et al., (2013) and Smismans (2022)

As for the developmental contexts, as said, each corresponds to a distinct facet of an athlete's life. The athletic context charts sport-specific progression, provides the reference age-based timeline for other domains, and is structured in four stages: (1) initiation; (2) development; (3) mastery; and (4) discontinuation. Initial engagement through informal play and early practice corresponds to the initiation period; systematic training, higher drive, and entry into amateur competition map onto development; participation at the top-tier competitions refers to mastery; and retirement or role change pertains to discontinuation. HAC emphasises that the movement between stages can be accelerated, stalled, or reversed by non-normative transitions (e.g., injury in traditional sport; publisher rules changes, meta shifts, or team closures in esports), and that "non-events" (e.g., not being selected to perform in the main team despite readiness) are developmentally consequential (Wylleman & Lavallee, 2004).

The psychological context refers to stages of psychological development as understood by Erik Erikson (2000; 2004; Orenstein & Lewis, 2022), albeit simplified. As such, it considers maturation of self-regulatory skills, motivation, and identity across age-related phases that run parallel to the athletic context. HAC research shows that stress-coping, goal setting, attentional control, and a flexible athletic identity help athletes manage selection pressure, performance slumps, and transitions in and out of elite roles (Wylleman & Lavallee, 2004; Wylleman, 2019). For example, athletes, especially those competing at higher levels, lacking stress coping skills may be compelled to discontinue their careers prematurely. On the other hand, athletes who excessively identify with their athletic role may face psychological challenges upon retirement, due to resulting identity crises. In esports, the same competencies are salient, with added exposure to always-on digital evaluation or very rapid competitive cycles.

The psychosocial context captures how social networks, support structures, and key agents support, influence and shift over career progression. For instance, parental support is vital during an athlete's early career (Jiow et al., 2018), with the support of coaches and teams becoming increasingly significant as athletes turn professional (Wylleman & Lavallee, 2004; Wylleman, 2019). Thus, with time, support shifts from parents and teachers in early phases to coaches, peers/teammates, partners, and eventually broader networks at higher levels (Wylleman & Lavallee, 2004; Wylleman, 2019). Esports adds a rather unique layer here. Parasocial and interactive audiences (fans engaging with the athletes via streaming and social media) in esports can act as amplifiers of support or can lead to strain, causing motivation and well-being issues, even inducing despair or fear of disappointing others (e.g., Sabtan et al., 2022).

The academic/vocational context formalises dual-career considerations, embodying the interplay between an athlete's sport participation and their educational or vocational pursuits, which prepare them for life after sports. HAC indicate to predictable points in career progression where education and high-performance demands collide, leading some athletes to pause study, reduce training, or exit sport altogether; alternatively, a singular focus on sports may result in academic dropout (Wylleman & Lavallee, 2004), delaying education until the sports career ends.

The financial and legal contexts were explicitly used in later HAC iterations, while being only suggested in early publications (e.g., Wylleman & Lavallee, 2004). They are, however, crucial for reflecting the professionalisation of sport and allowing for a more in-depth understanding of athletic careers (Stambulova, 2012; Stambulova et al., 2021; Wylleman et al., 2013). Financially, income stability, prize-money volatility, and literacy about contracts and budgeting shape career continuity and the quality of transitions. Legally,

key issues include status shifts (amateur to professional), competition eligibility, age-of-consent thresholds, immigration/visa issues, contract terms, infrastructure access, and career security. Transitions in legal status might also significantly alter the quality of athletic participation in competitions (Stambulova, 2012; Stambulova et al., 2021; Wylleman et al., 2013). For instance, work status change related to reaching a specific age may either hinder or facilitate an individual's career.

HAC, thus, provides a developmentally grounded, holistic framework that accommodates both ordered, age- and stage-related normative transitions and the unexpected, understood as non-normative transitions and non-events. Esports adaptations of HAC show its practical utility for identifying risk points, required supports, and career-sustaining competencies in competitive gaming while preserving the model's holistic logic (Salo, 2017; Hong, 2022). Nevertheless, the model remains, by nature, a linear framework, where such contextual and unexpected factors are of lesser importance. All in all, linear career models emphasise ordered, stage-based development with relatively predictable transitions. They are well-suited for structured environments—such as traditional sports—where institutional pathways and support systems create relatively stable progression routes. However, their assumptions of stability and predictability may be less applicable to contemporary career domains—such as esports—where career paths can be shorter, more volatile, and heavily shaped by technological, cultural, and market fluctuations.

1.1.2 Non-linear approach

With many changes to the contemporary career and work landscape, such as shifts in the global economy, the rise of digital industries, and changing employment norms, the models presented and discussed in the previous section, if left unmodified, might become outdated. Contemporary career frameworks have moved away from strictly sequential or staged career

paths toward more dynamic, individualised, and context-dependent models. The decline of lifelong employment within a single organisation, the growth of the gig economy, technological disruption, and greater emphasis on work-life balance have challenged the notion of a single, upwardly linear career ladder (e.g., Kost et al., 2020; Meng-Lewis et al., 2022; Pryor & Bright, 2007). Instead, modern careers are more and more characterised by lateral moves, portfolio work, career breaks, and re-entry at different stages—patterns often shaped by personal choice as much as by external circumstances. It is not that career stages have disappeared altogether. These still exist, but may be harder to identify and more chaotic in response to the volatility of the contemporary work market (e.g., Meng-Lewis et al., 2022). Scholars have responded to these changes by developing models that better capture fluidity, self-direction, and adaptability in career development. Examples of such models include the Boundaryless Career Model (Arthur & Rousseau, 1996), the Protean Career Model (Hall, 1996), the Kaleidoscope Career Model (Mainiero & Sullivan, 2005), and the Chaos Theory of Careers (CTC) (Pryor & Bright, 2011). These examples are outlined below.

One of the earliest non-linear career models is the Boundaryless Career Model (Arthur, 1994; Arthur & Rousseau, 1996), which focuses on career competencies. It rejects the traditional bond between the employee and the employer, meaning that the individual, according to this perspective, is no longer bound to one organisation, limited to one job, employer or field of expertise. In this view, careers are shaped by mobility across employers, industries, and even countries, drawing on networks, knowledge exchange, and personal agency rather than relying solely on hierarchical promotion. Arthur and Rousseau (1996) distinguished between physical mobility, referring to actual moves between jobs, firms, or industries, and psychological mobility, referring to the mindset of independence from any single employer or career pathway. A career may thus be boundaryless not only when frequent transitions occur, but also when individuals perceive themselves as free to pursue

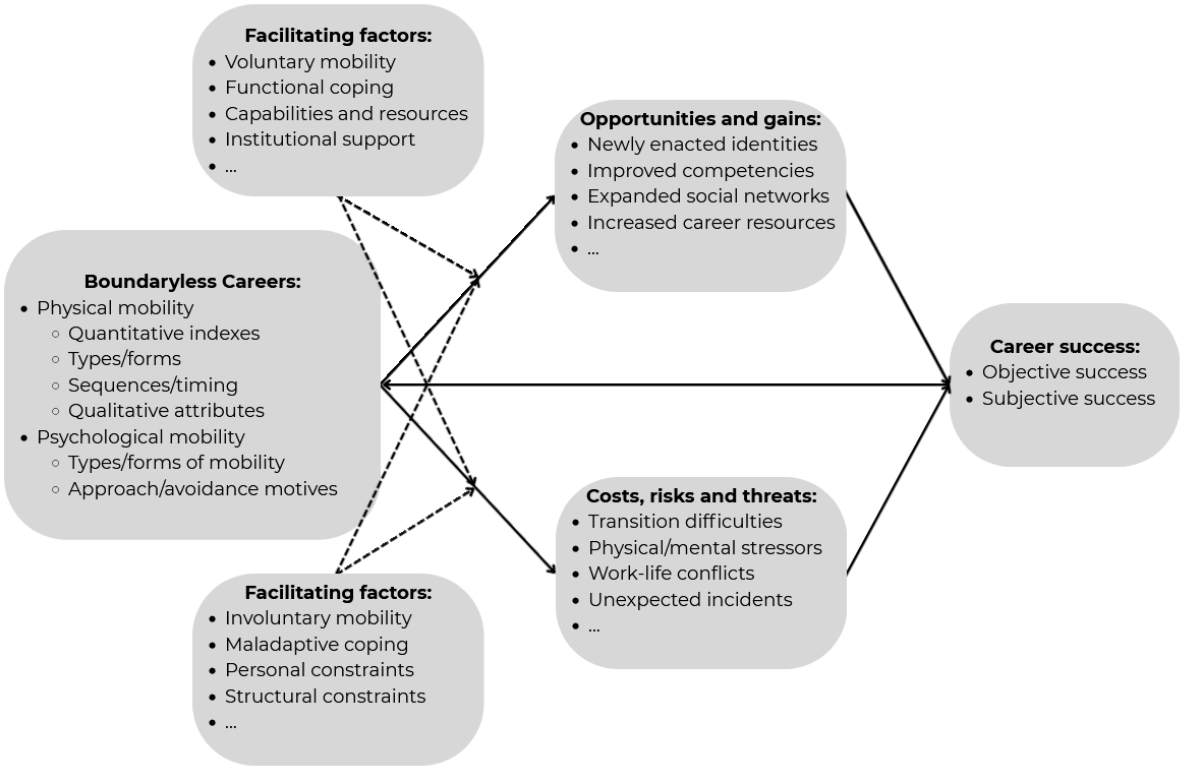
opportunities beyond their organisation. This perspective reflects broader societal and economic changes of the twenty-first century such as declining organisational loyalty, the rise of project-based work, and the growing importance of employability over employment security (DeFillippi & Arthur, 1994; Inkson, 2006). Success in this context is measured less by seniority and tenure than by the accumulation of transferable skills, adaptability, and professional reputation, all of which can be leveraged across diverse contexts and careers (DeFillippi & Arthur, 1994).

While the boundaryless career perspective highlights adaptability and individualism, it also shows what are the risks of shifting responsibility for one's career safety and development from organisations to individuals. Job security and employer-provided training become less certain as employers might find it less profitable to train new, likely short-term, employees. Workers themselves are expected to self-manage their careers, invest in their own development, and rely on self-created networks for career opportunities (Sullivan & Baruch, 2009; Rodrigues & Guest, 2010).

Guan et al., (2019; Figure 3), based on their literature review, have created an integrative model of career boundarylessness and career success. It shows that a career's success, be it objective or subjective, is a product of a complex web of factors and conditions present around the individual. Career mobility, both psychological and physical, together with facilitators (e.g., institutional support, resources) and constraints (e.g., maladaptive coping, involuntary mobility), influence opportunities and risks that the individual experiences, which in combination lead to career success. Career success, then, recursively influences career progress / mobility. Thus, despite its non-linearity, certain structure and repetition can be seen in this model.

Figure 3

Integrative career model combining career success and boundarylessness (Guan et al., 2019)



Note. The figure was adapted by the author from Guan et al. (2019).

The boundaryless career model is especially useful for analysing careers in more volatile industries. In esports, for instance, athletes often move between teams, organisations, and even different games, with career success depending heavily on visibility, reputation, and transferable competencies rather than tenure in one institution (e.g., Seo, 2016; Seo & Jung, 2014; Taylor, 2012; Ward & Harmon, 2019). The same goes for content creators or streamers, who often work without any institutional support whatsoever, with their career success depending solely on their efforts.

Another such theory with a similarly individual focus is the Protean Career Model (Hall, 1996). The concept takes its name from the Greek god Proteus, who could change

shape, symbolising flexibility and adaptability. Proteus was not only a shapeshifter but also a loner—self-directed, self-reliant, and following no one's path (Kubiak, 1999; Parandowski, 1989). By this metaphor, the individual following a protean career likewise directs their career through their own actions and develops regardless of others. As in the previous example, it is the individual, not the organisation, that takes responsibility for career management, goal setting, success, adjusting the career path and so forth. Therefore, in contrast to the organisationally bound, hierarchical career models of the past, the protean career is self-directed and values-driven. Success in this career type is not measured by objective success indicators, such as salary and promotions (Heslin, 2005; Ng et al., 2005), but by subjective ones like personal growth, psychological success, and alignment between work and individual values (Hall, 2002; Hall & Chandler, 2005; Heslin, 2005; Ng et al., 2005).

By emphasising adaptability, continuous learning, and intrinsic motivation, this model fits well with industries where career paths are volatile or poorly institutionalised, making it quite well applicable in most of the contemporary career landscape. However, it has also been critiqued for idealising individual agency and overlooking structural barriers, such as unequal access to training, networks, or resources (Baruch, 2014). Like in esports, sex, gender, place of residence, or access to infrastructure can all either facilitate career development or make it more difficult even when one can direct one's own career well. As previously noted, in esports perspectives such as this one are especially relevant, since many athletes and industry professionals define success not only by in-game ranks or income but also by personal development, fulfilling own ambitions, and the ability to make a career "their own". (e.g., Trepanowski et al., 2025d)

The Kaleidoscope Career Model (Mainiero & Sullivan, 2005) offers yet another perspective on non-linear career paths. This model acknowledges that career choices and

transitions are shaped not only by various opportunities experienced by the individual or their ambition, but also by the interplay of life roles, personal values, and situational factors. It identifies three main parameters, that is: (1) authenticity (alignment with personal values); (2) balance (between work and other life roles); and (3) challenge (opportunities for growth and mastery). Like in a kaleidoscope, the importance of these parameters changes over time in response to life stage, priorities, and context. However, despite such over-the-lifespan changes in these parameters, this model does not assume a fixed sequence of stages. Again, much like in a kaleidoscope, individuals can constantly recalibrate the parameters to adjust their relative weight to fit their current career stage.

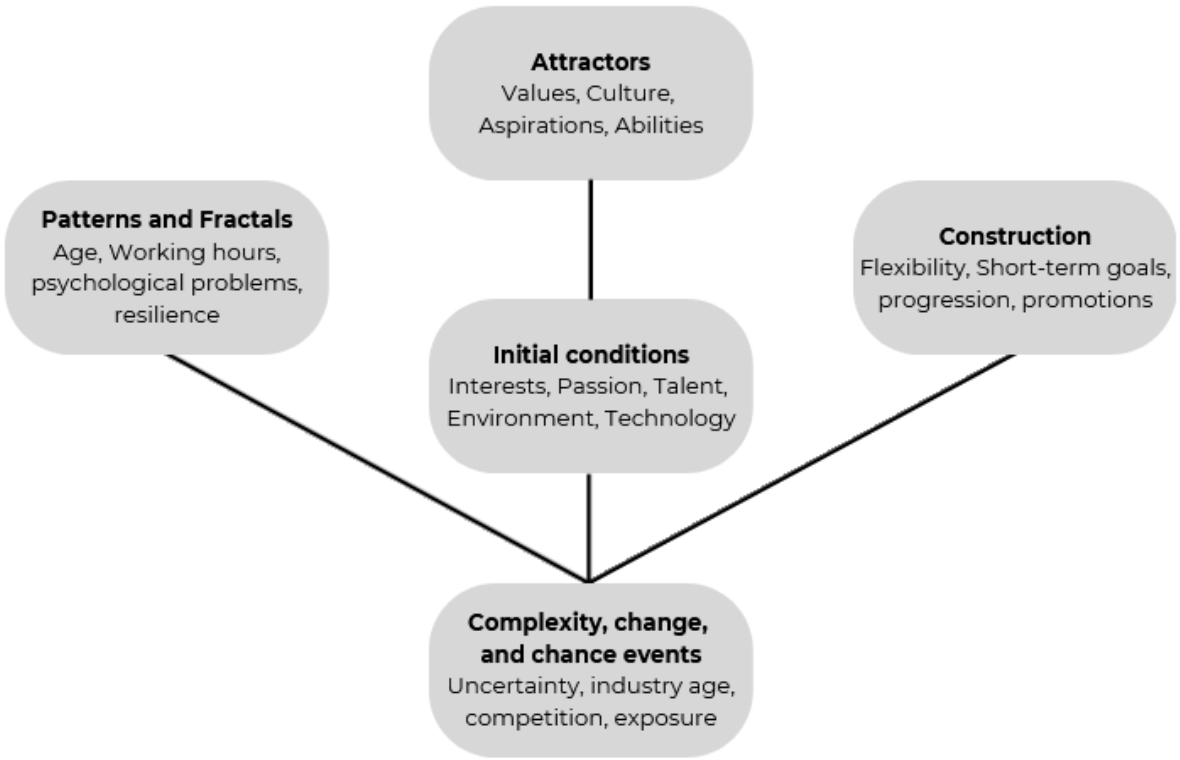
Similarly, these parameters tend to vary with life stage. For instance, early career professionals may prioritise challenge, actively pursuing experiences that test their abilities, while mid-career individuals frequently emphasise balance as they juggle professional and personal responsibilities. Later in life, authenticity often becomes central, with career decisions guided by the pursuit of meaningful, values-driven work (Mainiero & Sullivan, 2006; Sullivan et al., 2009). What distinguishes this model is its explanatory power for career moves that appear counterintuitive from a traditional linear perspective, such as switching industries or taking career breaks. In esports, for example, a professional esports athlete may prioritise challenge during peak performance years, but later shift towards balance by moving into coaching, streaming, or managerial roles, while others may pursue authenticity through, for instance, community leadership. Some researchers point out that the model was initially developed in Western contexts, raising questions about its cultural generalisability, particularly in societies where economic constraints or structural barriers limit individual choice (Tomlinson et al., 2018).

One of the newest and most interesting perspectives on contemporary careers, the Chaos Theory of Careers (Pryor & Bright, 2011; Figure 4) offers a conceptual framework that

embraces complexity and unpredictability as inherent to career development, based on chaos theory as understood in physics and mathematics. In those fields, dynamic systems are understood as highly sensitive to initial conditions, non-linear in trajectory, and constantly changing in unpredictable ways (Gell-Mann, 1996). Bright & Pryor, by applying this logic to vocational behaviors, understood careers not as stable ladders, but rather as open systems, where all elements constantly interact with each other, while being embedded in specific contexts.

Figure 4

Chaos Theory of Careers (Pryor & Bright, 2011)



Note. Figure adapted from Meng-Lewis et al., (2022); the authors used esports as an example; however, the figure here was adjusted to be suitable for more career types.

According to Bright and Pryor (2012), this model consists of six interrelated elements: complexity, non-linearity, continuous change, chance, fractals, and emergence. Complexity refers to the myriad influences affecting career decisions (Pryor & Bright, 2011), while non-linearity, akin to the "butterfly effect," highlights how small changes in initial conditions can lead to vastly different outcomes based on factors like region or education. Continuous change and chance underscore the unpredictability of careers—something often viewed negatively (e.g., injury) rather than positively (e.g., meeting someone who offers a job). Emergence, meanwhile, involves the order that can arise from these complex interactions (Bright & Pryor, 2012), and fractals emphasize the non-linear ways careers evolve over time.

In practice, this means that individuals navigating their careers are better served by cultivating adaptability, resilience, and openness to the unexpected than by relying on long-term, rigid plans. For example, unexpected disruptions—such as technological change or personal circumstances—can suddenly alter career paths, but so can chance encounters, innovations, or sudden opportunities. Rather than interpreting such changes as anomalies, the Chaos Theory of Careers recognises them as intrinsic to modern career development. By emphasizing uncertainty, complexity, and individual context, CTC shows why traditional linear models may not fully account for the range of esports career trajectories—thus providing a broader framework for understanding and managing modern careers, such as those in the esports industry (Meng-Lewis et al., 2022).

Therefore, non-linear career models emphasise adaptability, self-direction, and responsiveness to changing contexts, whether these changes are self-initiated or externally imposed. They reject the notion of a single, predictable pathway, instead framing careers as ongoing, iterative processes of decision-making and reorientation. In this sense, they are especially applicable to professions in emerging or rapidly evolving industries, where

boundaries are fluid, opportunities are diverse but unstable, and career longevity may depend on an individual's ability to pivot in response to shifting demands.

1.1.3 Careers in esports

The esports industry offers a plentitude of possibilities for career development, be it in more traditional, established roles or those emerging from the unique dynamics of the digital era. Nico Besombes (2019) and Michael Scott et al. (2021) illustrate this particularly well. Their work maps the esports ecosystem into ten distinct domains, each with multiple subdomains, ranging from competitive performance and event management to technological support, streaming, influencer culture, and grassroots development. A similar conceptualisation is found in Tobias Scholz's ecosystem model (Scholz, 2020), which positions esports athletes at the centre of the industry, surrounded by a network of supporting roles. Example areas of expertise and professions are presented in Table 2.

Indeed, both of these models show that esports athletes are central figures in the industry, without whom esports competition would not be possible. They work alongside coaches, analysts, and performance staff, supported by production crews, broadcasters, referees, and event organizers who ensure tournaments run smoothly. Additionally, specialized professions—such as legal advisors, psychologists, and physiotherapists—contribute to athlete well-being and organizational stability. Together, these roles form a network that sustains the industry's operations, growth, and cultural impact.

Table 2

Esports industry professional areas / career types

Area of expertise	Example professions
Administration	Legal: legal counsel or attorney Financial: accountant, treasurer, analyst Governmental: city coordinator
Business	Human resources: recruitment officer, training manager, HR manager Commercial: business developer, right purchaser
Sales / Marketing	Head of product, head of licensing, brand manager
Communication	Press officer, PR officer, content editor
Digital	Community manager, social media optimiser, post editor
Information & Technology	Network architect, sound engineer, software engineer
Events organization	Event director, runner, translator, observer
Broadcast	TV manager, cameraman, live GFX
Media	Journalist, photographer
Health management	Performance psychologist, physical therapist, sports director
Performance management	Career manager, head coach, media trainer
Entertainment	Desk analyst, host on stage, caster
Education	Teacher, researcher, instructor
Competing	High level players
Other services	Insurance provider, hardware supplier
Investing	Venture investor

Note. Adapted from Scholz (2020), Besombes (2019), and Scott et al. (2021). The table does not reflect all possible professions within the industry.

The business side encompasses marketing managers, sponsorship coordinators, brand representatives, and team managers, while technological roles such as software developers, network engineers, and data analysts make sure that the delivery of competition is without fault. Increasingly, hybrid and crossover roles are common—for instance, an athlete who also streams, or a manager who doubles as a talent scout—reflecting the industry's dynamic and adaptable nature. New opportunities are also emerging in areas such as AI-driven performance analytics, virtual event production, and esports education At the same time, these roles vary in stability, with some offering year-round employment and others tied to the seasonal or sponsorship-driven cycles of competition, a factor which is critical to understanding long-term career sustainability in esports (Besombes, 2019; Scott et al., 2021; Scholz, 2020).

Esports is becoming more and more recognized as a sport and a professional area. It should not be surprising, as people are slowly noticing that it is not so different from traditional sports. Players compete with each other. They are ranked, so are their teams. They experience personal and professional growth due to being an athlete, and they possess a sense of belonging to the game's/sport's community (Pedraza-Ramirez et al., 2020; Wagner, 2006). As noted, nowadays esports is recognized as a sport in many places around the world (Brancek, 2018; Larch, 2019; O'Brien, 2016; Sheldon, 2017; Yu, 2018), with some countries even having their official teams (Lin & Zhao, 2020). There is also a constant influx of new organizations, associations, tournaments and such (for instance: Call of Duty League (2020); Mobile Gamers League (2019); Fortnite World Cup (2019); Military Gaming League (2018); Professional Esports Association (2016) World Esports Association (2016)). This is especially important, as such organizations provide esports with additional legitimacy. However, there are still some doubts about "sportiness" of esports (Jenny et al., 2016). For instance, because esports athletes perform only precise movements, and for something to be

considered a sport, usually the activity of a larger number of muscles is required. For this reason, games like Jenga or chess are usually not considered sports. Another reason might stem from a lack of stable set of rules (Jenny et al., 2016). For esports to truly fulfill this requirement is nigh impossible, due to high changeability and heterogeneity of rules caused by the fact that each esports game is different. Moreover, even a single game update might lead to drastic changes in the rules. Nonetheless, esports is already institutionalized to the point of being offered as a sport to outside viewers and it does seem that it will remain around.

The esports athletic career's recognition is a different topic altogether. Unlike traditional athletes, esports athletes often receive little to no governmental support such as official salaries, stadiums, or state-appointed coaches and medical specialists (De Donder et al., 2022; Parshakov & Zavertiaeva, 2018). The dearth of institutional support and esports infrastructure renders the development of an esports career challenging, as learning and competing become difficult in the absence of requisite resources. Furthermore, societal attitudes toward esports can be adverse, with some considering it harmful, addictive, and dangerous (Lin & Zhao, 2020; Zhouxiang, 2017). For instance, in China such stigma persists and is reflected in government measures to limit video gaming (Lin & Zhao, 2020). Therefore, esports athletes aspiring to pursue their dreams might have to consider relocating abroad (Rambusch et al., 2007). What is more, esports athletes and even amateurs are often met with stereotypical negative perceptions, especially if they belong to minority groups, despite esport's touted inclusivity.

Such societal context also plays a role in shaping the parents' approaches to their children who aim to undertake an esports athletic career. In the early stages of an athlete's career, parents may initially exhibit resistance towards their child's decision to pursue this path. This could arise from concerns about potential interference with academic development

(Chansaengsee, 2022), or due to a lack of understanding about the career itself, deeming it unstable, unprofitable, unsustainable, or potentially harmful to their child's health (Hong, 2022; Jiow et al., 2018). Furthermore, parents may not even be aware that video games can result in viable career options (Hong, 2022; Jiow et al., 2018; Nielsen & Hanghøj, 2019; Taylor, 2012; Vilasís-Pamos & Pires, 2021). Consequently, children often need to negotiate with their parents, elucidating the merits and intricacies of this career path (Hong, 2022; Taylor, 2012; Taylor et al., 2009).

However, parents' apprehensions are usually rooted in concerns about the legitimacy of the career path and their children's futures, rather than an opposition to their children embarking on this path (Jiow et al., 2018). Still, instances do exist where parents fail to support their children's aspirations, which can foster unhealthy gaming culture (Nielsen & Hanghøj, 2019) or may deter their children from pursuing this career altogether (Meng-Lewis et al., 2020). As current athletes transition into parenthood, such scenarios might become less prevalent in the future, as these parents will have firsthand experiences that enable them to better comprehend the esports athletic career (Nielsen & Hanghøj, 2019).

Circling back to the esports athletic career path, many have tried to map out this career, with different resulting career models. The most well-known models include the stage theory model of professional game players (Kim & Park, 2010; Kim & Thomas, 2015), the esports career framework (Salo, 2017), and a direct application of CTC for esports athletic careers by Meng-Lewis et al. (2022). While other perspectives on esports athletic careers do exist in the literature they will be presented in Section 2 showing the results of the literature review.

Starting from the end, Meng-Lewis et al. (2022) present an especially interesting perspective as the authors decided to adapt a non-linear career model—Chaos Theory of

Careers (CTC; e.g., Bright & Pryor, 2011)—to esports athletes. Building on the CTC framework, they conceptualize esports athletic careers as dynamic, if not chaotic, systems in which progress is rarely linear and is constantly influenced by random and chance events. Their analysis draws attention to how athletes' pathways are shaped not only by deliberate planning and skill mastery but also by emergent opportunities, structural barriers, and sudden disruptions or issues such as changes in game mechanics, sponsorship withdrawal, or organizational restructuring.

Importantly, Meng-Lewis et al. (2022) note that adaptability and resilience are central to career sustainability in esports. The volatility of the industry means that athletes should be prepared to get accustomed to changes, sometimes moving between games, teams, or even roles within the esports ecosystem. Their model recognizes the influence of contextual and extra-individual forces, such as publisher governance, market saturation, and technological infrastructure, which can abruptly open or close career pathways regardless of individual talent. The authors argue for a reframing of career support systems in esports—advocating for flexible development programs, diversified skill-building beyond in-game competence (i.e., teaching transferable career competencies), and policies that anticipate and accommodate sudden changes.

The next example presents a much different perspective. Salo's (2017) model makes use of two existing frameworks: the HAC (Wylleman & Lavallee, 2003) and the athletes' career narratives framework (Douglas & Carless, 2006; 2008). From these, the author utilized specific concepts in developing his own esports athletic career model—namely, from the HAC, he draws on the concept of sport career transitions, which emphasises a lifespan perspective on athletes' progression from early sport involvement to retirement. From the athletes' career narratives framework, he adopts the idea that an athlete's development and

well-being are shaped not only by their competitive results, but also by the stories they tell about themselves and their careers, in particular the balance between different narrative types.

To provide some additional context, Douglas & Carless (2006; 2008) suggested that elite athletes' life stories often revolve around three narrative types: the performance narrative (focused on achievement, results, and rankings), the discovery narrative (centred on enjoyment, curiosity, and the experiential richness of sport), and the relational narrative (emphasising social bonds, community, and contributing to others). For example, an over-reliance on the performance narrative can lead to identity foreclosure, burnout, and difficulty adapting to transitions, whereas maintaining a balance between all three is associated with healthier, more sustainable careers. Salo (2017) applies these concepts directly to the esports context, arguing that the performance narrative often dominates in competitive gaming, sometimes to the detriment of discovery and relational aspects. In this adaptation, the author therefore highlights the need to account for these three narratives as success dimensions throughout the athlete's lifespan in esports.

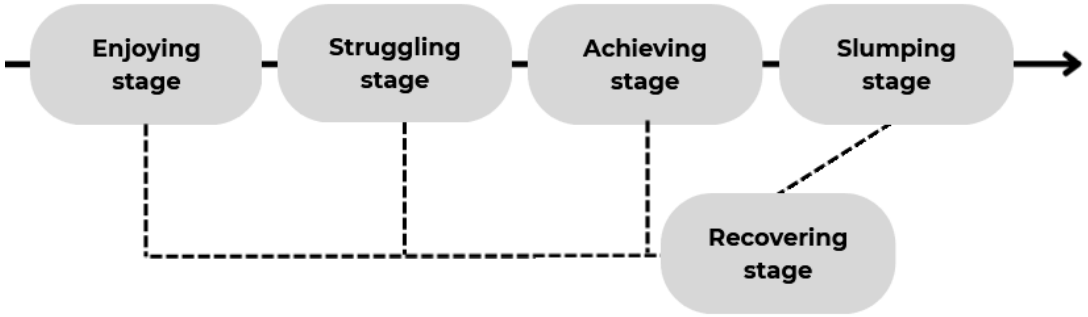
Based on these models, Salo (2017) suggests a lifespan approach to esports athletic career transitions that accounts for these three narratives. In this model, the athlete follows an identical path to that described in the HAC's athletic level, comprising four stages: (1) initiation; (2) development; (3) mastery; and (4) discontinuation. Salo claims that esports initiation is relatively easy for most, as it simply requires access to games and gaming equipment, which are often purchased by parents. If not, young people can rent such gear or play at local internet cafés or gaming organisations (e.g., Taylor, 2012; Zhouxiang, 2016). When such a player decides to develop their skills, they spend more time gaming, and a transition to the development stage occurs—often accompanied by participation in amateur tournaments. Over time, if athletes reach a high level of competence in their game or genre of choice, they progress to the mastery stage, characterised by intense training, peak

performance, and often professional contracts. Finally, either due to unforeseen events (e.g., injury, burnout, industry changes) or personal choice, athletes may retire, thus entering the discontinuation stage.

A perspective similar to Salo's (2017) model, albeit with a different focus, was presented by Kim & Park (2010) and later refined by Kim & Thomas (2015; Figure 5), in which the authors, drawing on Activity Theory (e.g., Engeström, 1999; Leontiev, 1978), created a socio-cultural model of esports athlete development. Activity Theory conceptualizes human actions as components of socially and culturally mediated "activity systems" composed of a subject, an object (goal), mediating tools, rules, community, and division of labour. These elements interact dynamically, shifting over time and influencing how individuals learn, work, and adapt.

Figure 5

Stage theory model of professional game players (Kim & Thomas, 2015)



Note. Figure created by the author based on Kim & Thomas (2015)

In gaming, the object is often framed as "having fun," a motive that, in turn, drives goals such as winning matches and achieving in-game mastery. However, in the professional esports environment, the object often shifts toward competition, achievement, and career advancement as athletes adapt to the structural and cultural demands of elite play (Kim & Thomas, 2015).

From this perspective, Kim & Thomas (2015) described the development of an esports athlete as progressing through five stages: (1) enjoying; (2) struggling; (3) achieving; (4) slumping; and (5) recovering. The first stage, enjoying, refers to non-professional engagement in games, often within amateur "guilds" or "clans," motivated primarily by fun. At this point, there is little to distinguish future professionals from other players, as both focus on enjoyment and informal skill acquisition. When a player joins a professional team, they enter the struggling stage, in which they are expected to adapt to more intensive training, stricter rules, and heightened expectations. Skills are relearned within a team framework, and the object gradually shifts from fun to competitive mastery. Athletes who succeed in this phase may reach the achieving stage, securing a primary team position—the "chosen member of the elite delegation" (pp. 181)—and gaining public recognition, with the focus now on maintaining top performance, media presence, and sponsorship relevance. Inevitably, most, if not all, athletes experience the slumping stage, where performance declines, motivation wanes, and personal limitations become more apparent, often due to fatigue, burnout, or changes in the competitive environment such as new game patches or stronger opponents. In some cases, athletes rebound through the recovering stage, regaining motivation and competitive form; this may lead back to any of the earlier stages or, in more fortunate cases, to a return to peak performance, although recovery can also be partial or temporary.

Kim & Thomas (2015) stress that these stages are not strictly linear. Athletes may skip stages, regress, or cycle repeatedly between them. Contextual factors such as publisher decisions, league restructuring, contract disputes, injuries, and media or fan scrutiny can accelerate or derail progression. Furthermore, this model focuses on the social nature of esports athletic careers, where success is embedded in team dynamics and interactions with fans and the wider esports community. This socio-cultural framing offers insights into how esports careers unfold within specific national and industrial contexts, while also highlighting

the psychological, organizational, and market forces that shape career trajectories. While this model provides a very interesting perspective, its applicability remains limited due to the study's methodology. Namely, the authors analysed a small set of interviews with South Korean esports stakeholders, mostly male athletes. As such, generalizing these results to other contexts without further studies is not feasible.

Both the linear and non-linear perspectives offer important knowledge about career development and progression, however, their applicability may remain limited depending on career type, especially regarding contemporary careers from emerging industries. For example, in the case of careers such as influencers or streamers, linear perspective would do little good, as such careers provide completely unique pathways, somewhat similar to that of entertainers but much more self-reliant, with little to no structure or external support. For instance, a prospective influencer is first expected to make a name for themselves only to be later scouted by some organization. However, at early career stages, such people usually do not receive any compensation from these organizations and only receive support in image creation and sponsorship acquisition, while the organisations may also take a percentage of specific deals or revenue-sharing arrangements. At least such is the case for TikTok-based influencers[2]. Regardless of the digression, there is no set path for this career as of yet.

In case of more established career paths, like that of an esport manager, coach or a psychologist, the already established stages and career transitions from their traditional counterparts are likely to transfer. Superficially, it might seem that esports athletic careers are also such traditionally-based careers, as they are in fact sporting careers (Kane & Spradley, 2017). Thus, it can be expected that esport athletic careers, like traditional athletic careers, would follow normative, linear transitions (expected changes in career path). Indeed, as already explained, several researchers argue (e.g., Kim & Thomas, 2015; Hong, 2022; Salo,

[2] Based on personal communication with one of such influencers, who preferred to remain anonymous.

2017) that esports athletic careers do follow some general stages. Yet others indicate that for this career, no stages can be distinguished at this point (Meng-Lewis et al., 2022) due to its unpredictability and variability coming from cultural aspects, chance events, issues with being recognized and so forth. Furthermore, regardless of career approach, these insights were often based on rather homogeneous samples (e.g., Kim & Thomas, 2015; Meng-Lewis et al., 2022), often limiting the results. It is also possible that both perspectives are correct, but applicable under different conditions. In that instance, based on Kim & Thomas (2015) Korean esports athletes would have more structured careers in comparison to Chinese ones, who were the primary focus of the Meng-Lewis et al. (2022) paper.

Indeed, this might be the case. If one takes a closer look at the approach to esports in both of these countries, a rather clearly visible difference does appear. Korean esports is one of the oldest, with significant historical background, with well structured governmental support and many academic possibilities to develop as an esports athlete (Jin, 2010). On the other hand, in China, while esports itself is governmentally supported, society does not have such a favorable view of it and especially of video games, resulting in strict limitations as to gaming involvement for young people (Zhouxiang, 2016). Considering that to become an esports athlete a person should develop their skills as early as possible, limited chances to play video games at a young age can make this career even more volatile than normally (e.g., Meng-Lewis et al., 2022; Ward & Harmon, 2019). Therefore, maybe it is not that career stages in esports do not yet exist, as Meng-Lewis et al. (2022) argued, but that the presence and types of such stages depend on regional and demographic differences. As such, it seems that these careers might be linear to some extent, while their specific courses are greatly affected by random and chaotic factors.

Rather than viewing linear and non-linear models as opposing explanations, a hybrid approach may better reflect the reality of esports careers. Such a model would acknowledge

that broad developmental stages exist, but that their sequence, duration, and stability can be disrupted by chance events, market dynamics, and cultural factors. Identifying this middle ground is essential for creating effective career support systems and ensuring the long-term sustainability of esports athletics.

1.2 Career Competencies

Across both classical and contemporary career theories, career progression depends not only on opportunities and structures surrounding a person but also on the competencies they bring to and develop across roles (e.g., DeFillippi & Arthur, 1994). In occupational psychology and human resource management, competency typically denotes individual characteristics (e.g., knowledge, skills, abilities, motives, traits) that influence performance in specific contexts (e.g., Spencer & Spencer, 1993). While the concept of competencies has existed for centuries, systematic scientific interest began relatively recently, following seminal works by David McClelland (e.g., 1973), in which he advocated for a competency-based approach, rather than an intelligence-based one, in predicting job performance, development, selection, and assessment. Whereas linear, stage-based career models typically assume a steady accumulation of role-specific competence, contemporary models emphasize transferable competencies that travel across careers, employers, or contexts (Arthur & Rousseau, 1996).

In this work, competencies are organised using the well-established KSAO framework, representing knowledge, skills, abilities, and "other characteristics" required for effective performance (e.g., Campion et al., 2011; Rodriguez et al., 2002; Sanchez & Levine, 2009; Stevens & Campion, 1999). A coherent set of KSAOs for a role or occupation is commonly referred to as a competency model (Campion et al., 2011). Alternative taxonomies exist, and terminology varies across countries, organisations or profession types. Weinert (2001), for instance, argues competencies are a construct combining, among others, abilities, knowledge, skills, experience, actions, or motivations. In a KSAO rendering, abilities, skills, and knowledge would fall onto their respective categories, while the remaining elements would be considered "other characteristics". Interestingly, however, Winterton et al. (2006) note that motivation lies somewhat outside of competencies *per se*. A person may be competent and have the capability to perform, but if motivation is absent their performance

will falter; conversely, motivation by itself, without competence, is not likely to yield expert performance.

Winterton and colleagues (2006) identified a number of potential issues with the existing competency typologies, and thus proposed their own approach. They divided competency into four dimensions: cognitive (theoretical knowledge), functional (application/skill), social (interactional/attitudinal), and meta-competence (learning to learn, adaptability), explicitly linking what people know, what they can do, how they relate to others, and how they develop and learn. This approach was meant to harmonise different national-level career-related frameworks that the authors have reviewed, which use quite diverse vocabularies. For example, functional competence/skill is referred to as "working methods" in Finland; "know-how and skill" in Hungary; "practice" in Scotland; "functional competence" in England and Wales. These national differences, while influencing understanding of competencies, are nevertheless more labelling issues than substance ones.

Another interesting approach to understanding career competencies was presented in DeFillippi and Arthur's (1994) boundaryless careers perspective, where the authors distinguished three competency areas. These include: (1) know-why; (2) know-how; and (3) know-whom competencies. Know-why covers, *par exemple*, motivations, personal meanings, career-related identities, or a sense of purpose that dictates career choices. Although rather individual, these factors are also socially shaped by organizational and corporate cultures, peer norms, and life stages the individual is in. So they evolve as contexts change. Know-how competencies relate to skills and job-related knowledge including both technical expertise and meta-skills (e.g., problem solving, learning agility, self-management; DeFillippi & Arthur, 1994). DeFillippi and Arthur (1994) contrast this with the KSA approach (not yet the KSAO approach), claiming that it is overtly job-focused, relating to specific role

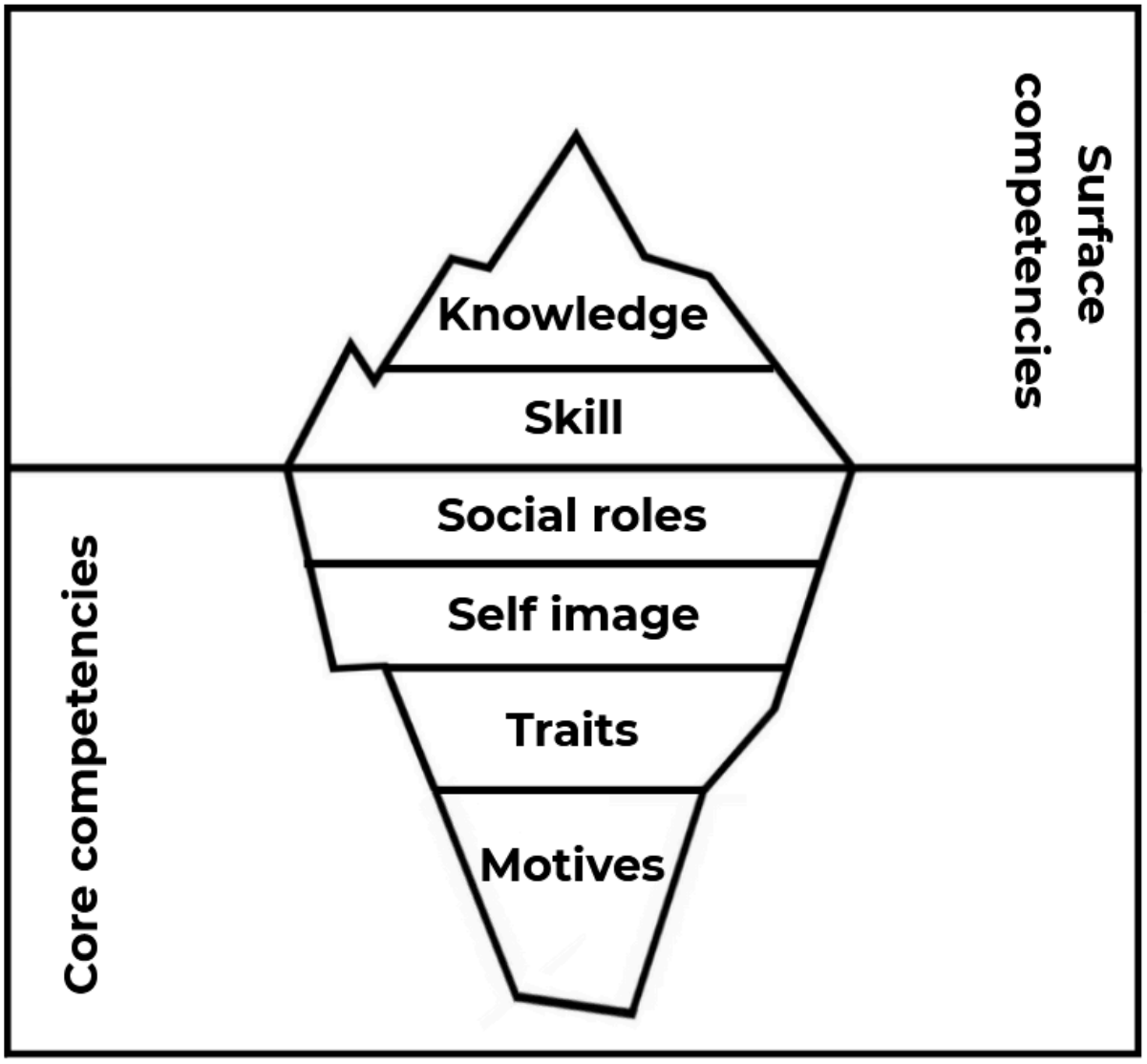
requirements, while know-why emphasizes broader usage of competencies. Finally, know-whom captures social capital, career-relevant networks, reputation, and communities of practice. In the broader sense, know-whom shows how social networks can be a resource, a repository of gathered reputation or a source of new learning. Relating to KSAO terminology, know-why aligns with "other characteristics" driving behavior (e.g., motives, values, identity); know-how consists of knowledge and skills; and know-whom spans across these competency categories, as it relates to both communication capabilities, which could be considered skills, as well as support networks, which belong in the "other characteristics".

The Competency Iceberg Model (Spencer & Spencer, 1993; see Figure 6) distinguishes between what is easily observable in performance and what lies hidden beneath the surface, dividing competencies into surface competencies and core competencies (Bozkurt, 2009; Spencer & Spencer, 1993). Following the iceberg metaphor, surface competencies sit above the waterline, representing knowledge and skills that are more visible and ready to use. Because they are explicit, surface competencies are comparatively easier to influence, assess, train, and certify. Core competencies, in contrast, are largely submerged beneath the waterline, consisting of motives, traits, self-image (including values and identity), and social role (Spencer & Spencer, 1993; Bozkurt, 2009). Core competencies are harder to observe or identify directly and are more difficult to change. Yet they shape how, when, and why individuals make use of their knowledge and skills. In Spencer & Spencer's (1993) work, it is often these core competencies, for instance achievement-related motives, that differentiate expert from average performance. It is not unlikely for the factors above the waterline to influence these beneath, like new knowledge leading to changes in one's motivations or social roles. For modelling and assessment, this shows a dual focus: develop and measure teachable knowledge/skills with clear behavioral descriptors, and use methods

suited to deeper change when affecting core competencies might be key for performance and learning.

Figure 6

The Competency Iceberg Model (Spencer & Spencer, 1993)



Note. Created by the author, based on Spencer & Spencer (1993)

Regardless of the framework, career competencies—as well as other context- and individual-level factors, here grouped as KSAOs—are key for understanding what effective performance looks like and how it is developed (Campion et al., 2011). Clear KSAO

definitions allow researchers and practitioners to specify the requirements of various roles within an industry, guiding selection, training, education, feedback, and self-development, ensuring that individuals are well-equipped for their chosen positions. Accordingly, mapping these KSAOs provides a clear framework for career development (e.g., Campion et al., 2011), usable for different industry specialists in guiding careers and tracking progression. As hinted, across taxonomies, most frameworks converge on three "surface" categories—knowledge, skills, and abilities—while each additionally lists some kind of factors which, in the KSAO perspective can be grouped into a singular residual bucket, namely "other characteristics", where deeper and contextual attributes are placed.

In this understanding, knowledge refers to organized information and understanding acquired through learning in interaction with different situational and contextual opportunities. A more socially-dependent intelligence so to speak (Kaur & Kumar, 2013; Winterton et al., 2006). It can be seen as a set of information relevant for a specific position or job. Knowledge can be general or generalised (e.g., principles of team communication), capturing overall information about the world, conceptually close to crystallized intelligence, but it can also be specialized, more arbitrary, or domain specific (e.g., game mechanics, patch histories, league regulations; Weinert, 1999; Winterton et al., 2006). Such specialized knowledge is often context-dependent and used in specific tasks. Knowledge is usually assessed via written and oral examinations or applied tasks. It is teachable, updatable, and prerequisite to many complex skills. Examples of different factors understood as knowledge could be found in existing literature. Gonçalves et al. (2025), using start-ups as an example listed knowledge areas such as market intelligence, technology knowledge, research and development, and strategic management. In esports, for example, map control information, economy management, timing windows, or competition rules are knowledge elements that influence performance.

As for skill, it can be defined in many ways, including overall muscular performance and the combination of different useful, industry-relevant mental and physical qualities, acquired through both training and practice (Kaur & Kumar, 2013; Winterton et al., 2006). Green (2011) claims that the definition of skill changes based on a discipline and language. In psychology for instance, skill is usually related to "whether some can do some task or set of tasks." (Green, 2011, p. 12). Skills can be divided into domain-specific ones (e.g., esports skill) or more general skills, with Green (2011) indicating a split between cognitive, interactive, and physical skills. Cognitive being related to "thinking activities"; interactive relating to communication of any types; and physical being associated with strength or dexterity. While skills and knowledge are interconnected, knowledge facilitates skill acquisition, especially at higher levels of competence (Winterton et al., 2006). Unlike knowledge, skills are revealed mostly in behavioral demonstrations rather than self-reports. As examples of skill, Gonçalves et al. (2025) listed, among others: adaptability, team management, problem-solving, communication, and sociability.

Ability is the "capacity to do/execute something efficiently" (Manfredi, 1999; after Gonçalves et al., 2025, p.7) or to apply known techniques to achieve personal or work-related objectives and tasks; more broadly, capacities that enable performance across tasks (e.g., spatial orientation and stamina). Abilities are a combination of both biology and experience; they are trainable to a point, but generally less malleable, in the short term, than knowledge or skills. Example abilities include creativity and opportunity recognition, as shown by Gonçalves et al. (2025). In esports and similar domains (e.g., aviation, Smithies et al., 2020), differences in working memory or attentional control can affect career opportunities, even when knowledge and practice are held constant.

The last KSAO element—”other characteristics”—encompasses anything that can influence career performance but does not fit into the categories of knowledge, skills, and abilities (Jackson & Wilton, 2016), including dispositional attributes (e.g., motives, values, personality, interests, self-regulation), social capital (networks, reputation), and contextual enablers/constraints (e.g., access to equipment, coaching, servers, travel funding). Some of these factors mirror the core competencies in the Competency Iceberg Model (Spencer & Spencer, 1993), which are similarly often difficult to observe and slow to change. These also include socio-demographic and structural factors, such as gender, sex, place of residence, training possibilities, education, availability of career planning, university partnerships, financing and so on (e.g., Gonçalves et al., 2025; Meng-Lewis et al., 2022). Gender in this instance may affect career progression and choices, as men and women may decide for more stereotypically gendered careers or can even be treated differently depending on the position (e.g., Hofstede, 2009, 2011; Kuijpers et al., 2006). So both a man who is a nurse and a woman who is working in a construction area would have fewer chances of success than their counterparts who follow stereotypical work roles. In a different example, salary scales with age, while age affects work position and may lead people to intuitively treat older individuals as more competent (e.g., Hofstede, 2009, 2011; Kuijpers et al., 2006). Other such examples also consider characteristics of the work environment, such as mobility perspectives, dynamics, career support in the work environment or in private situations (Kuijpers & Scheerens, 2006). As such, supervisor career support could positively influence salary and career satisfaction, while marital support is associated with greater chances of receiving a promotion (e.g., Kuijpers et al., 2006; Ng et al., 2005). In esports, availability of scrim partners, coaching ecosystems, and stable latency are quintessential "other characteristics" that affect career progression and success probabilities.

These elements, the competencies, the context are all interdependent. Abilities facilitate and constrain learning (Winterton et al., 2006); practice and feedback convert knowledge into skill; and meta-competencies such as self-regulation and learning ability accelerate acquisition across domains. As described in the previous section, the context in which the individual exists can facilitate skills and knowledge acquisition. Socio-demographic characteristics can influence opportunities for learning. Possession of knowledge or lack of it can change one's motivations. Prolonged success or failure can reshape core motives and identity, altering learning trajectories. Likewise, personality and previous experiences can, to an extent, affect all of the above.

Building a competency model follows established best practices (Campion et al., 2011; Shippmann et al., 2000). Campion et al. (2011) split competency modeling into three main phases: (1) analyzing competency information; (2) organizing and presenting competency information; and (3) using competency information. In brief, the model should first be anchored in a specified strategy and context (e.g., realities of the esports industry, preferably in a given region, genre, or game). Next, competency related-information should be extracted from different sources and using different methods, anticipating future-oriented job requirements. Such a model should include specific operationalisations of competencies and the system used, and, where possible, refer to existing competency-related sources. Finally, the model should be employed at different organisational levels to ensure acceptance and usability. A similar competency mapping perspective is presented by Kaur & Kumar (2013), who outline steps including identifying the context, preparing job descriptions, conducting semi-structured interviews, classifying skills, identifying and evaluating levels, preparing a competency calendar, and finalising the competency mapping.

From a more practical perspective, competency models reliably differentiate top, average, and weaker performers (Campion et al., 2011) and are linked to meaningful outcomes. Career competencies, for example, explain a substantial part of variance in intrinsic career success (e.g., career-actualization-ability, career control, and networking; ~35%; Kuijpers et al., 2006) or positively impact subjective well-being (Valickas & Pilkauskaitė-Valickienė, 2014). Competency models include information on how competencies change or progress. Such models and KSAOs are linked with organizational strategies. They gather information at all levels of expertise and try to predict what may and may not be needed in future iterations of a given career type. Often competency models are used in organizational contexts, focusing on how to choose and align individual behaviors with organizational expectations (e.g., Campion et al., 2011); however, it is not unusual for such models to be disconnected from specific posts at organizations and to focus instead on professions and individuals—clarifying what is necessary to achieve success in a given career (e.g., ESCO; European Commission, 2024).

Esports-related professions, however, are not yet widely present in such frameworks and taxonomies. For now, it is necessary to use adjacent competency models for analysis of careers. In the current example of esports athletes, the closest in terms of KSAOs would likely be traditional athletes, entertainers, or any kind of "superstars" (e.g., Ward & Harmon, 2019), as previous literature suggests (Trepanowski et al., 2024a). ESCO, that is European Skills, Competences, Qualifications, and Occupations framework (European Commission, 2024) indicates that to be a professional athlete there is a number of essential skills and competences, including: "adapt lifestyle to sports performance"; "apply sport game rules"; "assess performance in sport events"; "develop strong attitudes in sports"; "implement relevant tactical skills to perform at the highest level in sports"; "implement relevant technical skills to perform at the highest level in sport"; "manage sporting career";

“participate in sport events”; “participate in training sessions”; “work to develop physical ability to perform at the highest level in sport”; in addition there are some optional skills and competences, such as: “communicate with media”; "contribute to the development of a sporting estate”; “manage personal finances”; and “set up effective working relationships with other sports players’. In the existing esports literature, similar competencies are often listed as needed for esports athletes (e.g., Anderson et al., 2018; Karsenti, 2019; Meng-Lewis et al., 2022; Nielsen & Hanghøj, 2019; Rothwell & Schaffer, 2019; Taylor, 2012; Trepanowski et al., 2025a).

Going further, overall competencies that esports athletes possess also overlap with other professions, as previous authors have shown. For instance, Smithies et al. (2020), based on existing job-related datasets, show that esports athletes’ competencies are very similar to those possessed by military drone operators, pilots, and air traffic controllers. As such, their skills could be, at least to some extent, transferred to such professional areas. Therefore, while with regard to esports athletes there are no existing conceptualisations or collections of KSAOs, the models that exist for other professions can be applied cautiously.

In sum, competencies sit at the centre of career theory and practice, supplementing and enhancing career models. Stage-based models describe how progression typically unfolds; non-linear models explain why trajectories diverge; KSAOs operationalise what needs to be learned, practiced, and experienced for progression to occur. KSAOs also identify the surrounding contextual factors that are key for careers. Esports, however, lacks an adequate operationalisation within the KSAO framework, one that is grounded in the existing literature as well as amateur and stakeholder evidence. It is, however, needed, as it would offer a guideline to prepare practitioners for the realities of the esports industry.

1.3 Aims of the dissertation and the research problem

Despite the abundance of literature on esports and the number of attempts to model the careers of professional esports athletes, the current body of knowledge remains fragmented and lacks a structured framework for analysis. While there have been attempts to propose models (e.g., Salo, 2017), existing ones typically adopt linear, stage-based views (e.g., the Holistic Athletic Career model; Wylleman & Lavallee, 2004; Wylleman et al., 2013), with only some reaching for non-linear, more context-sensitive perspectives (e.g., Chaos Theory of Careers; Pryor & Bright, 2011). Traditional stage-based models fail to account for sudden disruptions such as game publisher decisions, trends making a given game or genre more (un)popular, specific entry conditions, and so forth. Both of these perspectives capture important elements of esports athletic careers, but neither provides a sufficiently comprehensive framework. Without such a framework, prospective esports athletes face the risk of entering the career unprepared, jeopardizing both their health and well-being; coaches and managers lack a common language for development planning; other stakeholders cannot act in an informed way; and policymakers struggle to design support systems aligned with the industry's needs. As a result, there is a higher risk of entry without preparation, burnout, early attrition, outcomes that, aside from affecting lives of prospective esports athletes, may also affect the long-term sustainability of the esports industry (e.g., Meng-Lewis et al., 2022).

Usually, such career models are not anchored in explicit competency considerations (although non-linear models place greater emphasis on competencies compared to linear models). That is, they describe when people tend to move between stages and where they move (context, developmental levels etc.) but far less often what needs to be learned, practiced, or supported for those movements to occur and how those requirements change depending on career stage. Not only in esports, but also in other career types, such omission can render career models less practical and less effective. For instance, without a competency

map, knowledge of what specifically should be developed to move between the stages of development and mastery can only be crudely approximated. In short, career models tell us when and where movement happens while competency models specify what enables that movement and under which conditions it is likely. However, with regard to both career models and career competencies, there seems to be a lack of systematisation in the current literature, hence the following research questions:

RQ1: What is the current state of scientific literature on esports athletic careers, including career paths, stages, and transitions?

RQ2: What knowledge, skills, abilities, and "other characteristics" (KSAOs) are necessary for success in an esports athletic career?

Of course, literature by itself is by no means sufficient to understand this career holistically, as it often provides only snippets of knowledge that tend to be disconnected from each other. Previous research suggests that results of literature reviews, if applicable, should be juxtaposed against lived experiences of those engaged with a given topic (e.g., Arksey & O'Malley, 2005). This might allow to discover areas previously not considered by the literature as well as validate the results of a literature review. Following this logic, RQ2 is again considered with the addition of the following research question:

RQ3: To what extent is the current body of literature consistent with the lived experiences of esports stakeholders?

In addition, the viability and applicability of any career model is inseparable from the contexts in which careers are embedded—contexts that are closely tied to industry sustainability. These contexts might include publisher actions, governance, IP rights (e.g., Hollist, 2015; Ridenhour, 2019 , age constraints (e.g., Holden & Baker, 2019; Hollist, 2015;

Meng-Lewis et al., 2020; Thompson et al., 2014), social perceptions and recognition (e.g., Lin & Zhao, 2020; Zhouxiang, 2017), infrastructure access (e.g., Meng-Lewis et al., 2020; Parshakov & Zavertiaeva, 2018), education and dual-career pathways (e.g., Agha, 2015; Scholz, 2019), or a macro-level sustainability factors (e.g., economic stability, revenue models, even environmental issues). Focusing on the context allows to situate a career within the conditions that can either impede or facilitate it, while also showing how career outcomes can influence the industry and ecosystem affecting its long-term sustainability. As such, the following research question is asked:

RQ4: What contextual forces make the esports profession attractive and what challenges threaten its long-term sustainability?

This dissertation addresses the presented gap by proposing an empirically grounded model of esports athletic careers, which integrates a competency-focused perspective with both staged career development and non-linearity / context-dependency of esports athletic careers, thus, creating a new approach that could be utilized in other professional areas if adapted. The created model, the Esports Career Model (eSCM), comprises of two interlinked components: (1) a career-path map (eSCM-P) that shows how players travel and cycle through their careers; and (2) a set of competencies and characteristics (eSCM-C) that specify the knowledge, skills, abilities, and "other characteristics" (KSAOs) that facilitate progression and success. The model is developed in three steps, each bringing a unique point of view: (1) a scoping review consolidating the scientific literature; (2) an open-ended qualitative study capturing non-professional and amateur perspectives on esports and associated careers; and (3) semi-structured interviews with diverse industry stakeholders (players, coaches, managers, organizers, medical and mental-health staff, and others) testing the validity of the model and identifying missing or incorrect elements. Accordingly, this dissertation may offer a new perspective on the progression of esports athletic careers and

identify what is necessary for success, responding to calls from previous researchers for a comprehensive theoretical framework (Cunningham et al., 2017; Salo, 2017).

From a theoretical perspective, this dissertation fits into sport psychology , work/organizational psychology, and cyberpsychology. It combines linear and non-linear career perspectives within a single framework that remains sensitive to extra-individual forces—publisher governance, legal frameworks, market cycles, infrastructure, and audiences—that open or close career pathways irrespective of other, individual factors. Thus, this dissertation may also become a good starting point for further research on esports, as it aims to systematize the knowledge about esports athletes and their careers. From a practical perspective, it may offer a guide for athletes, parents, coaches, and other stakeholders by clarifying typical career paths and career competencies; and for policymakers by highlighting specific structures that could help in improving safety, equity, and sustainability. Finally, by combining a career model and a competency map, it is likely to provide a reference point for education specialists and esports federations to design curricula or support programs.

As such, to effectively manage and support career development in esports, a framework that integrates both linear and non-linear elements is necessary. This framework should account for staged progression models while also incorporating the unpredictable nature of esports athletic careers, and it should recognize the significance of individual differences as well as broader contextual factors that shape career paths. Therefore, this dissertation primarily aims to identify: 1) the predominant scientific perspective on esports athletic careers; 2) the suggested development of such careers; 3) the KSAOs necessary for a successful career; and 4) how these factors relate to real-life experiences. In addition, it aims to integrate this knowledge with professional and amateur perspectives, and finally, to explore the deeper industrial context by delving into the subject of sustainability.

1.4 Research Design and Methods

This dissertation employs a multi-method approach organized into three complementary studies. The three-study design follows a progressive approach, moving from synthesis of existing knowledge (Study 1), through exploration of amateur perspectives (Study 2), to validation and refinement with industry experts (Study 3 and Study 3.1). The used methods include a scoping literature review, open-ended questionnaire analysed thematically with supporting statistics, and semi-structured stakeholder interviews, also analysed thematically.

The first study is a scoping literature review with elements of a descriptive review, consistent with the review typology provided by Paré, et al. (2015). This review follows PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines (Tricco et al., 2018), which provide a standardized framework for conducting and reporting scoping studies, allowing for structured search, screening, extraction, and reporting. To my knowledge, this is the first such literature review focused on the topic of esports athletic careers; previous reviews focused on adjacent issues including cognition (Pedraza-Ramirez et al., 2022), stress (Leis & Lautenbach, 2020), sleep (Bonnar et al., 2019), overall health (Monteiro Pereira et al., 2022) and many other factors related to the performance and wellbeing of esports athletes. Consistent with scoping review practice and literature, findings from Study 1 are later juxtaposed with stakeholder perspectives to check external validity and reveal inconsistencies; this comparison occurs primarily in Study 3 (and, to a lesser extent, in Study 2). This study, therefore, aims to answer RQ1 and RQ2.

The second study, aimed at partially answering RQ2, RQ3, and RQ4, uses an open-ended online questionnaire to examine how individuals not engaged professionally—or engaged only at an amateur level—perceive esports and esports careers. Most existing studies

focus on professional players, leaving amateur and grassroots perspectives underexplored. Including their perspectives helps capture early career stages and expectations before entering the professional scene, as well as their definitions of esports athleticism compared with professionals. The questionnaire was distributed via social media, namely Reddit and Facebook groups. The participants were prompted to describe what esports is, how they understand esports athletic careers, and how they define success and failure both in performance and career terms. Basic socio-demographics and gaming habits were also collected. The results were analyzed following thematic analysis methodology, supported by simple statistical analyses.

The third study (divided into Study 3 and Study 3.1) comprises semi-structured interviews with esports industry stakeholders to explore, among others, perceptions of esports athletic careers, success/failure understandings, and industry sustainability. Core interview topics include questions such as “is the esports industry sustainable in its current state”?; “what can be done to increase its sustainability?”; “what major issues and opportunities do you perceive in the current esports industry?”. Interviews were analysed using thematic analysis. In both Studies 2 and 3, sampling sought maximum heterogeneity (professional background, age, sex and gender, ethnicity, country/region, game title/genre) because, as indicated by the review, esports experiences are not universal—different conditions lead to different career pathways. Such design increases the usability and transferability of the study’s insights. This study is reported in two sections, each presenting a different analysis using different questions from the same dataset. Study 3 explores KSAOs, career pathways and validates the model suggested based on Study 1, whereas Study 3.1 delves deeper into the issue of industry sustainability as to better understand the context in which esports athletic careers are situated. As such, this study is aimed to provide answers to RQ2, RQ3, and RQ4. For a summary of the research plan, aims, and questions, see Table 3.

Table 3

Dissertations' research plan, aims, and questions

Research question	Aims	Study	Methods / Analysis
RQ1: What is the current state of scientific literature on esports athletic careers, including career paths, stages, and transitions?	**A.** Synthesize existing knowledge on the esports athletic career path	Study 1	**A.** Scoping literature review (PRISMA-SCR)
RQ2: What knowledge, skills, abilities, and "other characteristics" (KSAOs) are necessary for success in an esports athletic career?	**A.** Identify esports-related KSAO reported in the literature **B.** Explore amateur perceptions **C.** Explore stakeholder / professional perceptions	Study 1; Study 2; Study 3	**A.** Scoping literature review (PRISMA-SCR) **B.** Open-ended qualitative survey (Thematic analysis, correlation analysis) **C.** Stakeholder interviews (Thematic analysis)
RQ3: To what extent is the current body of literature consistent with the lived experiences of esports stakeholders?	**A.** Compare lived experiences of people engaged in esports with the literature in regard to career competencies and the career pathway of esports athletes	Study 2; Study 3; Study 3.1	**A.** Open-ended qualitative survey (Thematic analysis, correlation analysis) **B.** Stakeholder interviews (Thematic analysis)
RQ4: What contextual forces make the esports profession attractive and what challenges threaten its long-term sustainability?	**A.** Explore sustainability concerns among stakeholders **B.** Deepen the understanding of contextual factors influencing esports athletic careers	Study 2; Study 3; Study 3.1	**A.** Open-ended qualitative survey (Thematic analysis, correlation analysis) **B.** Stakeholder interviews (Thematic analysis)

1.5 Structure of the dissertation

This first chapter, following the introduction, presents the theoretical background that anchors the dissertation in existing literature. It begins with a detailed description of the realities of the esports industry—what it is and what is its current state. It then reviews career theory from work/organizational psychology, emphasizing both classical linear models and contemporary non-linear approaches, and closes by relating these frameworks to esports athletic careers. A final subsection introduces competency modelling and the KSAO (Knowledge, Skills, Abilities, and "other characteristics") framework, setting up the dual focus of this dissertation on both career pathways and competencies.

The second chapter reports Study 1, which is a scoping literature review (under review; Trepanowski et al., 2025a; Trepanowski et al., 2025b). This literature review, due to its extent, outside of this dissertation is reported in two separate publications. The chapter follows a standard journal structure (introduction, methods, results, discussion, summary). It ends with a synthesis presenting a preliminary set of KSAOs as well as an initial version of the esports athletic career model (eSCM) aligned with and compared to the original Wylleman and Lavallee's (2004) Holistic Athletic Career model, thus answering RQ1 and RQ2.

The third and fourth chapters each present one empirical study, again following a journal-style format. Chapter 3 (published, Trepanowski et al., 2024a) reports Study 2, a qualitative open-ended survey conducted online exclusively among amateur esports athletes, exploring their perspectives on esports athleticism, filling an important literature gap—most research on esports and esports-related careers focuses on professionals only. Chapter 4 (under review, Trepanowski et al., 2025a, 2025b, 2025c) reports Study 3, the stakeholder interviews. It explores career structure and competencies of esports athleticism, gathers a secondary KSAO set and validates the initial model suggested in Study 1, thus comparing literature and stakeholder perspectives. These chapters focus on RQ3 and RQ4.

The fifth chapter (under review; Trepanowski et al., 2025c) focuses on a more holistic perspective, leaving, to some extent, the model issue aside. While Chapter 5 shifts the focus from the model itself to the broader industry context, it remains integral to understanding the macro-level factors shaping esports careers. It aligns these findings with already existing frameworks such as the UN Sustainable Development Goals (United Nations, 2025) and the IOC's Olympic Agenda (International Olympic Committee, 2020). This chapter describes the current condition of the esports industry, and the macro-level of factors influencing esports athletic careers, thus answering RQ4.

The sixth chapter discusses the evidence collected throughout the studies and integrates it into the final eSCM with its two submodels - eSCM-P (Esports career model - Career path) and eSCM-C (Esports career model - Competencies and Characteristics). This chapter describes the theoretical contribution of the dissertation, reaching beyond the esports context (e.g., to sport and work psychology) and proposes practical applications of the results. This chapter also discusses the limitations of the conducted studies. Afterwards, the final chapter, the epilogue, summarizes the findings and contributions of the dissertation. References and appendices follow.

On a final note, many components reported herein and afterwards appear in articles that are already published or currently under review (Trepanowski et al., 2024a; 2025a; 2025b; 2025c). However, this dissertation extends the papers beyond their original contents. For instance, in the referenced publications, the scoping review, and stakeholder interviews are coupled but divided into two distinct publications with different focuses—one on career modelling, and the other on competency modelling. Such a procedure was necessary, as otherwise the total length of the manuscript well exceeded 100 pages. Accordingly, this dissertation reorganises and presents the same research in the structure explained above, allowing a more coherent presentation of the work and clearly emphasising its final result: the Esports Athletic Career Model.

2. Study 1 | Scoping literature review[3]

2.1 Introduction

Based on current literature, esports athletic careers appear to conform to normative transitions (expected career path changes), much like traditional athletic careers. Multiple studies (e.g., Kim & Thomas, 2015; Hong, 2022; Salo, 2017) suggest that esports athletic careers generally follow certain generic stages. These typically include gaining expertise, showcasing skills, turning professional, and eventually retiring from professional play or transitioning to a different role within the industry, potentially leveraging the knowledge and skills accrued during their esports careers (e.g., Smithies et al., 2020). Although this process is more complex than these broad stages suggest, it generally aligns with models of traditional sports careers (Wylleman et al., 2004).

However, novel industries like esports challenge this linear perspective, necessitating alternative approaches to understanding career development (Meng-Lewis et al., 2022; Pryor & Bright, 2011; Pryor & Bright, 2013). Today, career development is much more disconnected from specific workplaces and organizations, with traditional full-time employment often replaced by part-time, gig-based, or short-term arrangements (Strunk, 2009). As Strunk (2009) notes, contemporary careers are often located outside the organization and are more individual-dependent, limiting the applicability of linear career models. In the esports industry, many careers follow such extra-organizational arrangements, as they are most often self-guided with no external oversight. Prime examples include those in the streaming business or the early stages of esports athletic careers, where individuals have not yet been recruited.

[3] This chapter presents either exactly the same or modified fragments of the following papers under review:

A. Trepanowski R., Wu L., Hamari, J. (2025). Competences, skills, knowledge and other factors influencing esports athletic careers progression. [in review]
B. Trepanowski R., Wu L., Hamari, J. (2025). Esports career model: a mixed methods review. [in review]

The inherent unpredictability and flux within the esports industry highlight the need for more sophisticated career models, such as the Systems Theory Framework (e.g., Patton & McMahon, 2006), the Boundaryless Career Model (Arthur & Rousseau, 1996), and the Chaos Theory of Careers (CTC; Bright & Pryor, 2005). As described in the first chapter, these models recognize that career trajectories are not strictly linear but are influenced by multiple factors and subject to potential abrupt changes. In the context of esports—where the absence of established stages or career transitions suggests there may not be a single, defined path for athletes to follow (Meng-Lewis et al., 2022)—such models help explain how unexpected events and individual circumstances shape career outcomes.

Meng-Lewis et al. (2022) argue that, given this unpredictability, a different approach to career development in esports is necessary. Drawing on the CTC (Pryor & Bright, 2011) and a series of interviews, the authors emphasize the importance of adaptability, responsiveness to chance events, individual differences, cultural aspects, and various other conditions in shaping esports athletic careers. This approach offers a well tailored framework for understanding and managing esports careers. However, Meng-Lewis et al. (2022) also suggest that a structured occupational pathway with set stages might eventually emerge as the esports industry and esports athletic careers continue to develop. Additionally, considering that the results of Meng-Lewis et al. (2020) are limited to a Chinese sample and that this occupational pathway is influenced by numerous demographic factors, including region of origin, sex, gender, and forth (e.g., Adinolf & Turkay, 2018; Cullen, 2018; Fletcher, 2020; Madden et al., 2021; Taylor, 2012; Trepanowski et al., 2024a), their implication might have limited generalisability. Thus, a linear pathway with set stages may already exist for some specific demographics.

While both linear and non-linear perspectives have been successfully applied to esports, they remain fundamentally different. The linear perspective views career progression

as orderly and predictable, while the non-linear perspective argues that this linearity does not fit contemporary careers. On the one hand, non-linear frameworks may be more relevant to modern, previously non-existent career paths, including some roles within the esports industry, such as streaming. On the other hand, linear frameworks may be more applicable to contemporary careers that are well-grounded in existing occupations. For example, video game journalists, career managers, coaches, analysts, and psychologists affiliated with esports teams (Scott et al., 2021) operate similarly to their traditional sports counterparts, with the primary difference being the type of sport and medium (Trepanowski et al., 2024a).

Moving beyond structural considerations, both perspectives ultimately converge on the significance of KSAOs in shaping career outcomes. These may include demographic traits and individual differences, as well as various skills, abilities, and knowledge that often influence both career development and sustainability, and in-game performance (e.g., Anderson et al., 2018; Meng-Lewis et al., 2022; Taylor, 2012). For esports athletes, this includes not only technical gaming skills but also strategic thinking, teamwork, and the ability to handle high-pressure situations (Macedo & Falcão, 2020; Taylor, 2012). Additionally, personal characteristics such as resilience, adaptability, and a willingness to learn and improve play significant roles in shaping career outcomes (e.g., Foster et al., 2013; Meng-Lewis et al., 2022). Sustaining a career in esports also requires mental endurance, stress management, and careful balancing of rigorous training schedules, and various cognitive abilities (e.g., Leis & Lautenbach, 2020; Pedraza-Ramirez et al., 2020). These factors collectively inform not only day-to-day performance but also the long-term trajectory and sustainability of an esports athlete's professional journey.

To effectively manage and support career development in esports, a framework that integrates both linear and non-linear elements is necessary. This framework should account for staged progression models while also incorporating the unpredictable nature of esports

careers, and it should recognize the significance of individual differences as well as broader contextual factors that shape career paths. In this study, the current literature on esports athletic careers is explored, examining which career models are presently employed through a scoping literature review. Additionally, the KSAOs identified in existing literature that influence this career path are investigated. These results are then, in Study 3 discussed with industry stakeholders from various backgrounds to compare scientific knowledge with practical expertise. Therefore, this study primarily aims to identify: (1) the predominant scientific perspective on esports athletic careers; (2) the suggested development of such careers; (3) the KSAOs necessary for a successful career; and (4) how these factors relate to real-life experiences. Based on this knowledge will be proposed an initial version of the model that will be the final result of this dissertation.

2.2 Materials and methods

This review used the scoping study methodology, which aims to comprehensively map the breadth and nature of existing literature in a particular research area (Arksey & O'Malley, 2005; Paré et al., 2015; Tricco et al., 2018). Scoping studies allow researchers to explore a specific research area without deeply delving into individual results (Rumrill et al., 2010). Following the recommendations by Arksey & O'Malley (2005) stakeholder consultations were conducted in Study 3 to validate and extend the review results. To ensure a thorough and transparent process, this review adhered to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines (Tricco et al., 2018), which provides a standardized framework for conducting and reporting scoping studies.

2.2.1 Eligibility criteria

To be included in this review, papers needed to meet the requirement of being published after the rise of esports. While some researchers suggest that esports trace back to as early as 1940s (Scholz, 2019), a more suitable cutoff date is 1972, marking the first significant esports tournament featuring the game *Spacewar* (Pedraza-Ramirez et al., 2020; Scholz, 2019). It is worth noting that the advent of competitive video gaming does not necessarily coincide with the emergence of professional esports careers, thus the likely scarcity of relevant papers from the mid-twentieth century. There were no imposed restrictions on the type of literature as long as it was related to esports athletes or their careers. Similarly, no restrictions were placed on study design, methodology, or data type, encompassing qualitative, quantitative, and non-empirical works. Only review papers were excluded from the final review and instead served as references for further searches. Only works in English were considered. While the lack of inclusion of works in languages other than English limits this review, this was necessary due to confounding factors. For instance, initial test of the search criteria showed that many papers yielded by keyword “esport*” were in Portuguese, where "esporte" means "sport", significantly inflating irrelevant returns. Similarly, most non-English results did not seem to relate to the topic of esports or even video gaming, but to completely different areas of science such as physics. Thus the language restriction. No other search restrictions were used, consistent with scoping review guidance, to maximise retrieval of potentially relevant works. The remaining criteria and detailed rationale for each are presented in Table 4.

Table 4

Detailed inclusion criteria for the current scoping study

Inclusion criteria	Summary	Detailed description
1. Publication date	Published after 1972	Studies were included if published after 1972, corresponding with the first significant esports event (*Spacewar* tournament).
2. Publication type	Research papers, conference proceedings, books, chapters, letters, viewpoints	Research papers, conference proceedings, books, chapters, letters, and viewpoints were included, as long as those papers were scientific, published works. Review papers were excluded from the final analysis but were used to identify additional relevant studies.
3. Study design	qualitative, quantitative; non-empirical	No restrictions were placed on study design; qualitative, quantitative, and non-empirical works were all included.
4. Language	English	Only studies published in English were considered to maintain consistency and accessibility.
5. Accessibility	Full text available	Only papers with full text available were included. Where full text was not accessible, authors were contacted; non-responses led to exclusion.
6. Broad relevance	Addresses the topic of esports	The focus was required to be on esports athletes, including both current and former players. Studies focusing on esports games and the esports industry were also considered **if** they directly related to esports athleticism.
7. Specific relevance	Consists information on esport athletes and/or esports athletic career	Included studies needed to address career development, transitions, KSAOs, or factors influencing career and industry sustainability.

2.2.2 Search strategy

An extensive set of keywords was utilised during the literature search to capture a comprehensive range of literature related to esports athletic careers and professional esports athletes. Recognizing the inconsistent terminology in the esports research area, the following keywords were employed (* indicates a wildcard): (1) *e-sport**, (2) *esport**, (3) *professional gam**, (4) *professional player* AND *video gam**, (5) *pro-gam**, (6) *competitive gaming*, (7)

electronic sport, (8) *e-athlete*, (9) *digital sport*, (10) *cybersport*, (11) *virtual sport*, (12) *virtual competition,* (13) *gaming career**. An example search code is presented in Appendix 1. Before conducting the complete search, 30 works were randomly screened to test the adequacy of the defined eligibility criteria and keywords. Based on this, keywords *cybersport* and *digital sport* were added. While the search yielded some other potential keywords these were not included due to relating to topics outside the review's scope. For instance, *progam** led to manuscripts on engineering and medicine, *professional player* to works on music and sport-related careers, while *competitive gam** retrieved works on any type of competitive gaming.

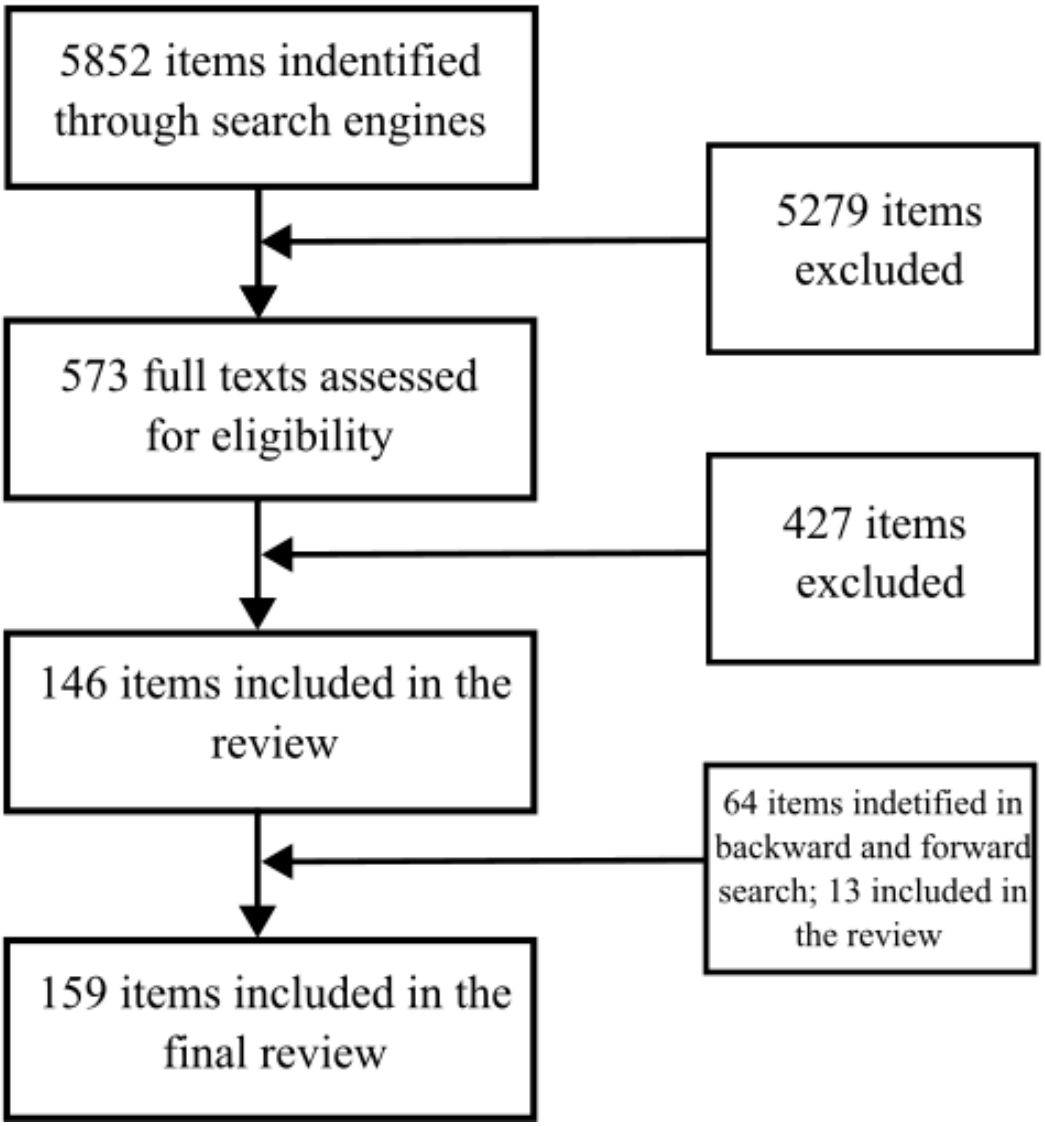
The literature search was conducted in June 2023 and updated in March 2024 using four search engines: Scopus, Web of Science, ACM Digital Library, and IEEE Xplore. Both Scopus and Web of Science provide access to high quality papers published in the top journals, while ACM Digital Library and IEEE Xplore provide access to post-conference proceedings related to topics circling around technology, thus allowing to identify newest and best research related to the current search. To identify additional relevant conferences, journals, and papers, forward and backward searches were performed through Google Scholar and ResearchGate, following Arksey and O'Malley's (2005) scoping literature search recommendations. If a paper was identified but unavailable, authors were contacted.

After collecting the dataset, duplicates were removed, and each paper was screened by title, abstract, and keywords to assess its relevance to esports. Only papers relating to esports athletes' characteristics, attributes, abilities, and/or esports athletic careers were included in the final review. Key bibliographic data were extracted from the selected papers, such as authors, publication year, authors' countries of origin, and publication venue. Data on the contents of the papers, including type, design, aim, study focus, and method, were also collected. A concept matrix (Webster & Watson, 2002) was created to extract key information

from the items included in the review, focusing on different approaches to career paths, models, or progressions present in the literature. Additionally, the review identified which KSAOs are considered important or necessary during an esports athletic career according to the existing literature.

Figure 7

Search strategy and identified items



2.3 Results

The literature search yielded 5,852 items (the search was repeated, leading to some additional duplicates). After removing duplicates and screening titles, abstracts, and keywords according to broad relevance, 573 full texts were retained for more detailed analysis, with 146 making it into the final review. An additional 64 items were identified through forward and backward searches, of which 13 were included in the final set of reviewed papers. Ultimately, 159 items were deemed suitable for review. The entire search process is graphically represented in Figure 7. In the following subsections present: (1) a brief bibliometric analysis; (2) extracted information on existing esports-athlete career models; and (3) KSAOs identified in the esports literature.

2.3.1 Bibliometrics

The oldest study in the review dates back to 2007, while the most recent is from 2024. A majority (79.3%) of these studies were published post-2018, with 2022 seeing the most publications (n = 31; 19.5%). Only a single study was published per year between 2007 and 2009. Most studies were authored by either one (n = 29; 18.2%), two (n = 38; 23.9%), or three (n = 37; 23.3%) authors; the study with the most authors had eleven. Authors represented 35 countries, with the highest proportion coming from the USA (n = 40; 25.1%), followed by Australia (n = 17; 10.6%), the UK (n = 12; 7.5%), Spain (n = 9; 5.6%), South Korea (n = 8; 5.0%), China (n = 8; 5.0%), and Brazil (n = 8; 5.0%). Of the total, 71.6% (n = 114) of the studies were articles, 18.2% (n = 29) were published in conference proceedings, 1.8% (n = 3) were dissertations, 1.8% (n = 3) were books, and 1.2% (n = 2) were chapters.

Most works were published in unique venues, with only a few recurring, such as *Frontiers* (n = 8; 5.0%), *International Journal of Environmental Research and Public Health* (n = 6; 3.7%), *the International Journal of Gaming and Computer-Mediated Simulations* (n =

5; 3.1%), *Games and Culture* (*n* = 5; 1.1%), *Aloma* (*n* = 3; 1.8%); and *Computers in Human Behavior* (*n* = 3, 1.8%), among ten other venues with two instances each. Additionally, 8 (5.0%) works were categorized as short forms, encompassing opinions, letters, or commentaries. In terms of methodology, 50 (31.4%) studies employed a qualitative approach with techniques like interviews and observations, 61 (38.4%) adopted a quantitative approach featuring methods such as surveys, and 11 (6.9%) studies used a mixed-methods approach. Thirty-seven (23.3%) studies did not conform to any of these designs, instead offering theoretical considerations or implementing methodologies specific to their area of focus, such as the law-related works.

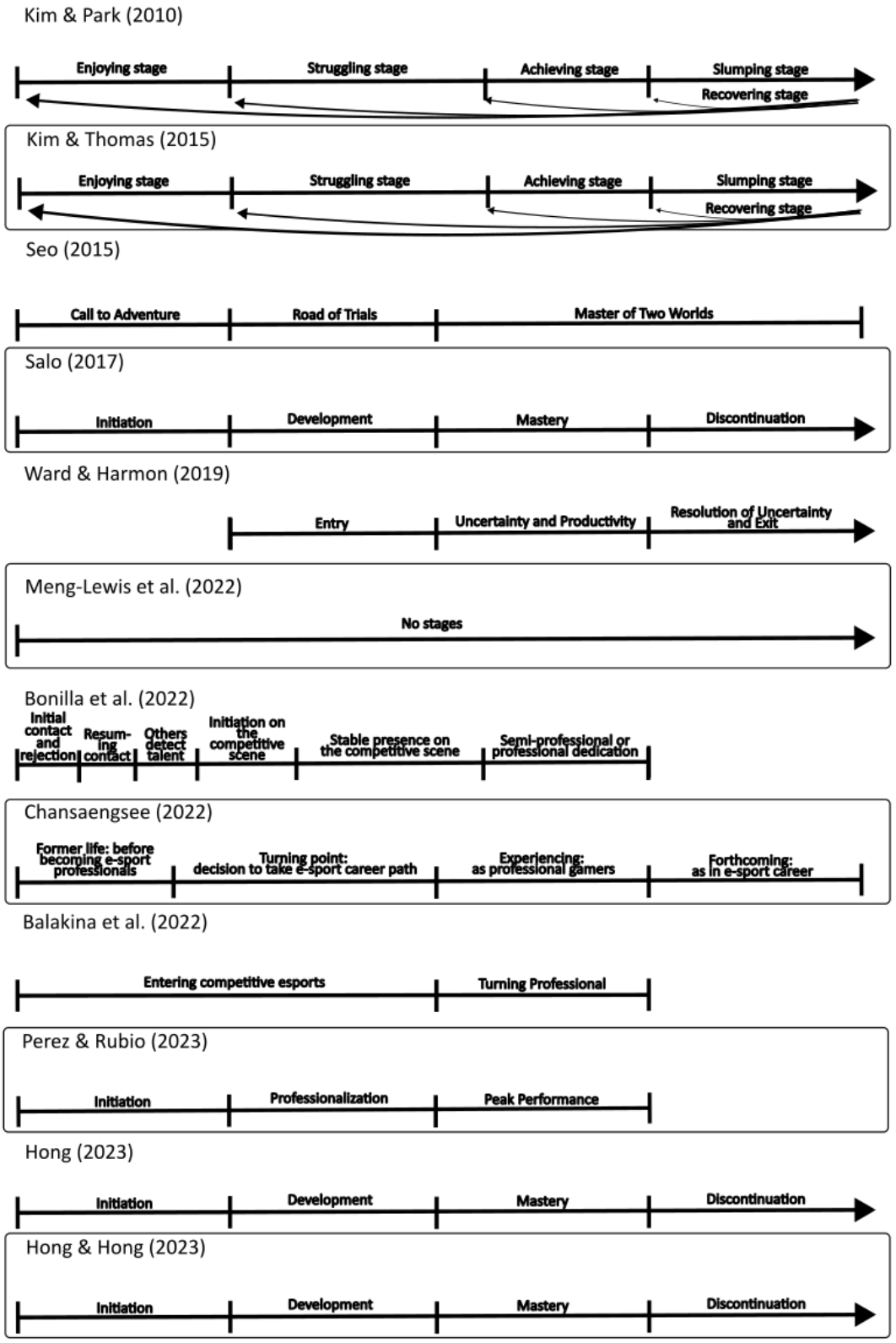
2.3.2 Esports career models

Twelve studies examining models or occupational pathways of esports athletes in various contexts were identified. Despite differences in their theoretical foundations and focuses on specific career aspects, most suggested that these pathways follow similar stages, as shown in Figure 8. In the figure, the models are juxtaposed in chronological order. Most of the papers presented a linear career approach, with three based on the Holistic Athletic Career model (Wylleman & Lavallee, 2004), namely Hong (2022), Hong & Hong (2023), and Salo (2017). Only one paper presented a non-linear perspective (Meng-Lewis et al., 2022).

Typically, the initial stage focuses on game initiation (Balakina et al., 2022; Bonilla et al., 2022; Chansaengsee, 2022; Hong, 2022; Hong & Hong, 2023; Kim & Park, 2010; Kim & Thomas, 2015; Salo, 2017; Seo, 2015). In this stage, games are played primarily for enjoyment and challenge, often with friends or family members who introduced the player to the game. With time, the player becomes more interested in gaming, tries different genres or shares their hobby to others.

Figure 8

Models of esports athletic careers



Towards the end of this stage, players usually develop a deeper interest in the game and its community (Seo, 2015), slowly learning about specific game mechanics or trying to better understand the lore behind the game. Occasionally, one can encounter unexpected opportunities for self-improvement (Chansaengsee, 2022), such as being invited to participate in team-based gaming or local competitions for fun. As this stage ends, players who develop a deeper interest in competitive gaming begin to transition from casual gaming to serious gaming or organized competition (Seo, 2015). Bonilla et al. (2022) further divided this stage into four sub-stages: (1) initial contact and rejection, (2) resuming contact, (3) others detect talent, and (4) initiation into the competitive scene. Conversely, Ward & Harmon (2019) bypassed the initiation stage beginning instead with the transition from amateur to professional play.

Following initiation, players who aspire to become esports athletes begin to make a name for themselves and adopt a more serious approach in the development stage. The onset of this stage is somewhat ambiguous, with Kim & Thomas (2015) marking it by joining a professional team, while Chansaengsee (2022) associates it with an athlete's decision to pursue an esports career. Regardless, it seems that a player needs to decide to become a professional, which can be prompted by being noticed by others or by perceptions of the athlete's own success. At this point, the acquisition of new knowledge, honing of skills, and the establishment of an esports-related identity become primary motivations (Perez & Rubio, 2023; Seo, 2015). Many athletes proceed independently without professional assistance (Salo, 2017), even though professional guidance could significantly boost their prospects of success (Kim & Thomas, 2015). That means that most players remain without any help from professionals focused on performance enhancing, such as coaches. Often they have to rely on their gaming communities to find guidance and knowledge, reaching out to others through

gaming forums or other such spaces (e.g., Steam forums; Reddit; Discord) or receive assistance using specific in-game features (e.g., Coaching mechanic in DOTA 2).

Upon reaching the third stage—the mastery stage—athletes turn professional, embracing their identity as esports athletes (Chansaengsee, 2022; Seo, 2015), and shifting their focus from playing for enjoyment to pursuing their professional/competitive goals (Bonilla et al., 2022). As Perez & Rubio (2023) indicate, in some cases, reaching this stage may require meeting certain initial conditions, such as a specific age. Athletes at this stage play to win,and to become vital members of their teams (Kim & Thomas, 2015). They compete with people from other teams, but also with other athletes from their own organisations in order to become members of the main team delegated to compete at the highest levels (e.g., Kim & Thomas, 2015), similarly to how it works in traditional sports tiered teams or during tryouts (e.g., Soccer Interaction Academy, 2025). Athletes typically maintain this trajectory unless they find it challenging to balance their professional commitments with other aspects of their lives (Seo, 2015), are unable to sustain themselves (Ward & Harmon, 2019), or encounter difficulties in maintaining a consistent winning record (Kim & Thomas, 2015).

In the subsequent discontinuation stage, athletes end their careers and explore alternative paths, often within the esports industry (Chansaengsee, 2022), seeking to leverage their skills and knowledge. Although athletes may cease playing professionally, they often continue to engage with the community in some capacity (Seo, 2015). For instance, by sharing their experiences, tactics, or working in some other roles, such as a shoutcaster, tournament organiser, or a coach. Kim & Thomas (2015) and Kim & Park (2010) identify an additional stage indicating a possible comeback and return to one of the earlier stages. In

contrast, Balakina et al. (2022) and Perez & Rubio (2023) did not consider either retirement or what comes after.

Meng-Lewis et al. (2022), however, offer a non-linear perspective that challenges the stage-based view. As already described, they base their esports athletic career description on the Chaos Theory of Careers (e.g., Bright & Pryor, 2011). These authors argue that a stage-based approach may not be suitable for esports athletic careers, given their continuous changes and unpredictability, which do not adhere to any defined progression. While this perspective might be debated, Meng-Lewis et al. (2022) provide several critical insights: (1) the transition to becoming an esports athlete is influenced by political, economic, environmental, technological, and social contexts; (2) esports careers undergo constant (non)normative transitions; and (3) each player has unique motivations for becoming an esports athlete, which help keep their "careers on track" (Meng-Lewis et al., 2022, p. 9). To an extent, the remaining papers defining such occupational pathways hinted (more implicitly than not) at factors (e.g., region, gender, access to infrastructure or resources) considered by Meng-Lewis et al. (2022), thus also indicating a degree of unpredictability inherent to esports.

2.3.3 KSAOs identified in the review

This section synthesizes and maps what the literature implies about what it takes to sustain oneself, progress, and succeed as an esports athlete, while further sections validate the presented claims against stakeholder opinions. Table 5 presents the review results, classified into clusters that include social, occupational, psychological, physical, cognitive, and game-related skills, as well as physical and mental health, ethical adherence, support structures, and various external and demographic conditions, along with other factors such as luck. This classification spans the full KSAO framework—knowledge (e.g., patch rules,

health/contract literacy), skills (e.g., communication, time management), abilities (e.g., attentional control, working memory, fine motor control), and "other characteristics" (e.g., motivation, identity, networks, infrastructure and governance)—but groups them differently for practicality. As such, many of the presented factors do not reflect only a singular KSAO bucket, with their sub-factors spanning many of them.

Table 5

KSAOs important for esports athletic careers as identified in the review

Factor	Description	Sub-factors (K/S/A/O)	Reference
Game skills and game analysis	Gaming-specific know-how; factors associated with in-game efficiency; knowledge and expertise regarding the game itself as well as the ability to execute strategies and tactics.	- In-game mechanics (e.g., aiming, APM, precision in executing in-game mechanics) (S/A) - Game knowledge (e.g., staying up-to-date with updates, specialization in the played title, terminology, metagaming) (K) - Tactical & strategic decision-making (S) - Strategy research, studying opponents, scouting (K/S)	Bonilla et al. 2022; Himmelstein et al., 2017; Huston et al., 2022; Karsenti, 2019; Kim, 2017; Lipovaya et al., 2018; Larsen, 2022; Meng-Lewis et al. 2022; Scholz, 2019; Railsback & Caporusso, 2018; Rudolf et al., 2020; Seo & Jung, 2014; Taylor, 2012; Trepanowski et al., 2024a; Witkowski, 2012
Cognitive functions	Mental capacities and capabilities directing knowledge consolidation into skill and adaptation to changing game states.	- Critical thinking and problem solving (A/S) - Adaptability and cognitive flexibility (A) - Anticipation and metallization (A) - Reaction time and processing speed (A) - Activation control, self-regulation and attention control (A/S) - Working and long-term memory (A)	Agha, 2015; Bonnar et al., 2019; Bonilla et al. 2022; Gostilovich et al. 2023; Hagiwara et al., 2019; Himmelstein et al., 2017; Kim, 2017; Larsen, 2022; Meng-Lewis et al. 2022; Piatysotska et al., 2024; Railsback & Caporusso, 2018; Rambusch et al., 2007; Rudolf et al., 2020; Seo & Jung, 2014; Sharpe et al., 2023; Taylor, 2012; Trotter et al., 2023; Wang et al., 2024; Zhang et al., 2023
Physical ability	Physical and motor skills reflecting overall physical capability.	- Quickness, precision, and reflexes (A) - Fine motor control (A) - Agility, dexterity, and endurance (A)	Bonnar et al., 2019; Carrani et al., 2022; Giakoni-Ramírez et al., 2022; Hilvoorde & Pot, 2016; Himmelstein et al., 2017; Kim, 2017; Railsback & Caporusso, 2018; Rambusch et al., 2007; Rudolf et al., 2020; Witkowski, 2012; Zhang et al., 2023
Physical and mental health	Health (physical and mental) literacy as well as routines and behaviors sustaining	- Physical health literacy (e.g., nutrition, exercise, sleep) (K) - Mental health literacy (K) - Exercise and conditioning (S) - Sleep and dietary habits (S)	Alexander et al., 2020; Bányai et al., 2019; Basuodan et al., 2023; Bonilla et al. 2022; Bonnar et al., 2019; Bonnar et al., 2022; Buzzelli & Draper, 2021; Carrani et al., 2022; DiFrancisco-Donoghue et al., 2019;

	safe performance.	- Burnout management (S) - Coping skills and stress management (S) - Competition preparation (e.g., warm-up) (S) - Wind-down and recovery times (O/S)	DiFrancisco-Donoghue et al., 2022; Ekefjärd et al., 2024; Geoghegan & Wormald, 2018; Giakoni-Ramírez et al., 2021; Giakoni-Ramírez et al., 2022; Gomes et al., 2021; Holden & Baker, 2019; Hollist, 2015; Hong & Hong, 2023; Kari & Karhulahti, 2016; Kegelaers et al., 2024; Lam et al., 2022a; Lam et al., 2022b; Lee et al., 2021; Lin & Zhao, 2020; Machado et al., 2022; Madden & Harteveld, 2021; Maldonado-Murciano et al., 2022; Mateo-Orcajada et al., 2022; Meng-Lewis et al., 2022; Monteiro Pereira et al., 2023; Paravizo & de Souza, 2019; Pereira et al., 2019; Pérez-Rubio et al., 2017; Poulus et al., 2022a; Poulus et al., 2022b; Rudolf et al., 2020; Sabtan et al., 2022; Sharpe et al., 2023; Singh et al., 2023; Smith et al, 2022; Takakura et al., 2019; Taylor, 2012; Trotter et al., 2020; Trotter et al., 2023; Wattanapisit, et al., 2020; Whalen, 2013; Yılmaz & Özkan, 2022; Yin et al., 2020; Zhouxiang, 2017; Zwibel et al., 2019
Psychological factors	Motivations, traits, individual differences, and learned psychological skills that support career performance as well as overall career persistence and learning.	- Motivation (extrinsic vs. intrinsic) and attitude toward gaming/training (O) - Drive for improvement, self-actualization, growth mindset (O) - Values and attitudes (e.g., professionalism, sportsmanship) (O) - Commitment and passion (O) - Self-esteem and confidence (O) - Resilience (S/O) - Emotion regulation and focus (S) - Personality-related factors and individual differences (e.g., competitiveness, responsibility) (O) - Regularity and consistency in practice, discipline (S)	Lopes Angelo et al., 2022; Agha, 2015; Bányai et al., 2020; Behnke et al., 2020; Bihari & Pattanaik, 2023; Bonilla et al., 2022; Brock, 2017; Bonnar et al., 2019; Brock & Fraser, 2018; Buzzelli & Draper, 2021; Carbonie et al., 2018; Chansaengsee, 2022; Fanfarelli, 2018; Fanfarelli, 2018; Freeman & Wohn, 2017b; Foster et al. 2013; García-Lanzo & Chamarro, 2018; Giakoni-Ramírez et al., 2022; Himmelstein et al., 2017; Huston et al., 2022; Hutchins, 2008; Jin, 2010; Jiow et al., 2018; Kim & Thomas, 2015; Kim, 2017; Larsen 2022; Lee & Schoenstedt, 2011; Lin & Zhao, 2020; Madden et al., 2021; Martončik, 2015; Mateo-Orcajada et al., 2022; Mateo-Orcajada et al., 2023; Meng-Lewis et al., 2022; Nielsen & Hanghøj, 2019; Paravizo & de Souza, 2019; Perez & Rubio, 2023; Pluss et al., 2022; Poulus et al., 2022a; Railsback & Caporusso, 2018; Rambusch et al., 2007; Rudolf et al., 2020 Salo, 2017; Seo & Jung, 2014; Seo, 2015; Taylor, 2012; Whalen, 2013; Yu & Jeong, 2022
Social skills	Interpersonal skills that enable collaboration, conflict management and feedback exchange in both team and individual activities.	- Networking and relationship building (S/O) - Communication clarity (S) - Connecting with audience (S) - Cooperation and teamwork abilities (S) - Handling criticism and active others (S) - Leadership and conflict resolution (S) - Empathy (S)	Bonilla et al. 2022; Buzzelli & Draper, 2021; Chansaengsee, 2022; Fletcher, 2020; Freeman & Wohn, 2017a; Freeman & Wohn, 2017b; Kow & Young, 2013; Lipovaya et al., 2018; Macedo & Falcão, 2020; Nielsen & Hanghøj, 2019; Paravizo & de Souza, 2019; Rambusch et al., 2007; Rudolf et al., 2020; Sabtan et al., 2022; Scholz, 2019; Taylor, 2012
Occupational skills	Specific occupation-related factors as well as professional literacies necessary for a sustainable career and	- Career savviness (S) - Career and retirement planning (S) - Contract knowledge and deal evaluation (K) - Sponsorship literacy (K)	Agha, 2015; Anderson et al., 2018; Bonilla et al., 2022; Brock, 2017; Brock & Fraser, 2018; Carrani et al., 2022; Chansaengsee, 2022; Davidovici-Nora, 2017; Fanfarelli, 2018; Fletcher et al., 2020; Gerber, 2022; Holden & Baker, 2019; Hollist, 2015; Hong, 2022; Hong

	facilitating career transitions.	- Language abilities (K/S) - Legal knowledge (e.g., visa, IP) (K) - Work-life balance routines (S) - Personal financing (taxes, budgeting) (K/S) - Adjacent skills (e.g., content creation, streaming) (S) - Brand building and reputation management (S/O) - Technological know-how and digital literacy (K/S) - Time management (S)	& Hong, 2023; Huston et al., 2022; Hutchins, 2008; Jin, 2010; Jiow et al., 2018; Johnson & Woodcock, 2021; Kim, 2017; Kim & Thomas, 2015; Lin & Zhao, 2020; Madden et al., 2021; Meng-Lewis et al. 2022; Nielsen & Hanghøj, 2019; Paravizo & de Souza, 2019; Rambusch et al., 2007; Ridenhour, 2019; Rothwell & Shaffer, 2019; Sabtan et al., 2022; Salo, 2017; Scholz, 2019; Scott et al., 2021; Seo, 2015; Seo & Jung, 2014; Shaffer, 2019; Smithies et al., 2020; Taylor, 2012; Xue et al. 2019; Whalen, 2013; Witkowski & Manning, 2019
Ethical adherence	Knowledge and conduct regarding fair play, cheating and tournament regulation.	- Esports ethos and sportsmanship (K/O) - Respectful conduct (S/O) - Fair play (e.g., avoiding cheats and performance enhancers) (S/O) - Rule adherence (K/S)	Davidovici-Nora, 2017; Friehs et al. 2022; Holden et al., 2019; Irwin & Naweed, 2020; Macedo & Falcão, 2020; Naweed et al., 2020; Nielsen & Hanghøj, 2019; Seo, 2015; Seo & Jung, 2014; Taylor, 2012; Trotter ; Whalen, 2013; Wattanapisit et al., 2020
Support structures	Social and institutional entities that facilitate or impede career progression.	- Close-relationships social support in any form (instrumental, financial, informational, emotional) (O) - Fan/community support (O) - Access to team- and game-related resources (O) - Bargaining bodies and federations (O) - Structured systems (e.g., staff, school, university, government) (O) - Social acceptance./legitimacy of esports (O)	Anderson et al., 2018; Bihari & Pattanaik, 2023; Buzzelli & Draper, 2021; Chansaengsee, 2022; Davidovici-Nora, 2017; De Donder et al., 2022; DiFrancisco-Donoghue et al., 2019; Faust et al., 2013; Freeman & Wohn, 2017a; Freeman & Wohn, 2017b; García-Lanzo et al., 2020; Han et al., 2012; Holden & Baker, 2019; Hollist, 2015; Hong, 2022; Jiow et al., 2018; Karsenti, 2019; Kim & Park, 2010; Kow & Young, 2013; Kwak et al., 2020; Lin & Zhao, 2020; Lipovaya et al., 2018; Madden & Harteveld, 2021; Meng-Lewis et al., 2022; Nielsen & Hanghøj, 2019; Paravizo & de Souza, 2019; Parshakov & Zavertiaeva, 2018; Pereira et al., 2019; Railsback & Caporusso, 2018; Rambusch et al., 2007; Ridenhour, 2019; Sabtan et al., 2022; Salo, 2017; Scott et al., 2021; Seo, 2015; Scholz, 2019; Scholz, 2020; Taylor, 2012; Taylor et al., 2009; Taylor & Stout, 2020; Wang et al., 2022; Watson et al., 2021; Vilasís-Pamos & Pires, 2021; Yılmaz & Özkan, 2022; Zhouxiang, 2017
Other conditions and factors	Structural and contextual constraints that shape access to competition, training, mobility and so forth; factors not fitting the remaining categories.	- Policy and governance (league rules, esports policies) (O) - IP ownerships and game volatility (O) - Infrastructure access (servers, Internet, venues) (O) - Equipment purchase/renting access (console/ PC, peripherals) (O) - Country development and funding environment (O) - Geographic location, culture, and country of origin (O) - Demographics (e.g., ethnicity, sex, age) (O) - Competition access (leagues, tournaments, visas, local venues) (O) - Safety nets (e.g., healthcares, unions) (O)	Adamus, 2012; Adinolf & Turkay, 2018; Agha, 2015; Bihari & Pattanaik, 2023; Bonilla et al., 2022; Chansaengsee, 2022; Cullen, 2018; Davidovici-Nora, 2017; Faust et al., 2013; Fletcher, 2020; Foster et al., 2013; Freeman & Wohn, 2017b; García-Lanzo & Chamarro, 2018; Groen, 2016; Harris et al., 2022; Himmelstein et al., 2017; Hussain et al., 2021; Jenny et al., 2021; Johnson & Woodcock, 2021; Jin, 2010; Jiow et al., 2018; Kari & Karhulahti, 2016; Kim & Thomas, 2015; Lee & Steinkuehler, 2019; Lin & Zhao, 2020; Madden et al., 2021; McLeod et al., 2022; Meng-Lewis et al., 2022; Parshakov & Zavertiaeva, 2018; Pizzo et al., 2023; Polman et al., 2018; Railsback & Caporusso, 2018; Ridenhour, 2019; Rogstad, 2023; Rothwell & Shaffer, 2019; Rudolf et al., 2020; Sabtan et al., 2022; Schelfhout et al., 2021; Scholz, 2019; Scott et al., 2021; Seo & Jung, 2014;

- Esports educational infrastructure/pathways (O) - Time availability (study/work/family constraints) (O) - Luck (discoverability, timing) (O) - Talent (baseline capacity ceiling) (A/O)	Shynkaruk et al., 2021; Smithies et al., 2020; Taylor, 2012; Trepanowski et al., 2024a; Trotter et al. 2022; Ward & Harmon, 2019; Whalen, 2013; Witkowski & Manning, 2019; Xue et al., 2019; Yin et al., 2020; Zhouxiang, 2017

Given that this career type is deeply embedded in gaming, it should not surprise that at the center of its KSAO are gaming-related factors, that is the knowledge and skills that translate into performance under competition conditions. Around these are four sets of capabilities that determine how much athletes can develop, namely cognitive functions, physical abilities, health literacies/behaviors, and psychological characteristics of an individual. Together, these capabilities explain why athletes can progress at different rates, especially because only some of these are trainable, while others only limitly so. Further are social skills that facilitate not only in-game performance but also recognition and respect, and, if well developed, increase the likelihood of encountering opportunities for development. Important in career development are also career literacies or occupational skills as well as ethical adherence/conduct, which sustain reputation but also help transitioning between different career stages and out of competition into retirement or different careers. Finally, support structures and other conditions recognize context, that is how social relations influence one's career progression and how demographics, infrastructure, governance, and so forth inhibit or facilitate careers.

As noted, most of the presented knowledge and skills are teachable; abilities exhibit rather limited plasticity; and "other characteristics", while in some cases coachable, are often purely contextual and not changeable (e.g., age, country of origin). The distinguished categories are relevant across game titles and genres as well as geographical regions; the salience of specific sub-factors may vary by stage of athletic career, game genre or the level of competition—something reported in the reviewed works only to a limited extent. For

instance, legal literacy may matter little at career start, but further into a career it becomes increasingly important; family support is key at initiation, while during the mastery stage it is coach, teammates or fans that contribute most to career sustainment and development; while gaming-related skills remain key throughout an athlete's entire career.

In practice, Table 5 provides a shortcut to the existing esports literature, creating an initial categorization of KSAOs important in esports athletic careers. Each sub-factor is explicitly tagged to the KSAO framework so one can see, at a glance, what to develop (knowledge vs. skills), what to screen for (abilities, within realistic plasticity limits), and what to provision or mitigate through context ("other characteristics" such as networks, infrastructure, and governance). Reading alongside the career-path model, it also helps in understanding the timing of career development. However, the literature often did not explicitly describe the listed factors and categories as KSAOs, rarely did it even describe them as competencies. The methodologies used in the studies leave much to be desired, as controlled trials were rare, samples often homogeneous, and many papers did not include any empirical exploration whatsoever. Despite these shortcomings, the literature converges strongly enough to justify extrapolating the career competencies. Accordingly, Table 5 should be treated as a conceptual map rather than a rigid taxonomy, and it should be further refined. The next step of this dissertation is to do exactly that: juxtapose these results with different perspectives, both professional and amateur

2.4 Discussion

Wylleman & Lavallee (2004) argued that the journey toward becoming an elite athlete demands a substantial commitment of resources not only from the athlete but also from their support network across various developmental levels. This perspective is reflected, albeit in a simplified form, in research on esports athletic careers. Most studies delineating the career

trajectories of esports athletes do not differentiate specific developmental contexts or levels, instead merging all information into a unified entity akin to the athletic developmental area outlined in the HAC model. As previously described, in this model, Wylleman & Lavallee (2004) distinguished four aspects of development: athletic, psychological, psychosocial, and academic/vocational; subsequent work has emphasised additional layers to the model including financial and, in some accounts, legal (Stambulova, 2012; Stambulova et al., 2021; Wylleman et al., 2013). The athletic level describes career transitions linked to age, skill level, physical health, and organizational factors of a sport, covering the stages of initiation, development, mastery, and discontinuation. The psychological level encompasses motivation, the development of athletic identity, and the acquisition of psychological competencies, whereas the psychosocial level represents an athlete's supporting social networks. The academic/vocational level considers how sports participation intertwines with educational or vocational pursuits. The financial level addresses sources of income and resources, while the legal context concerns employment status, contracting, and governance.

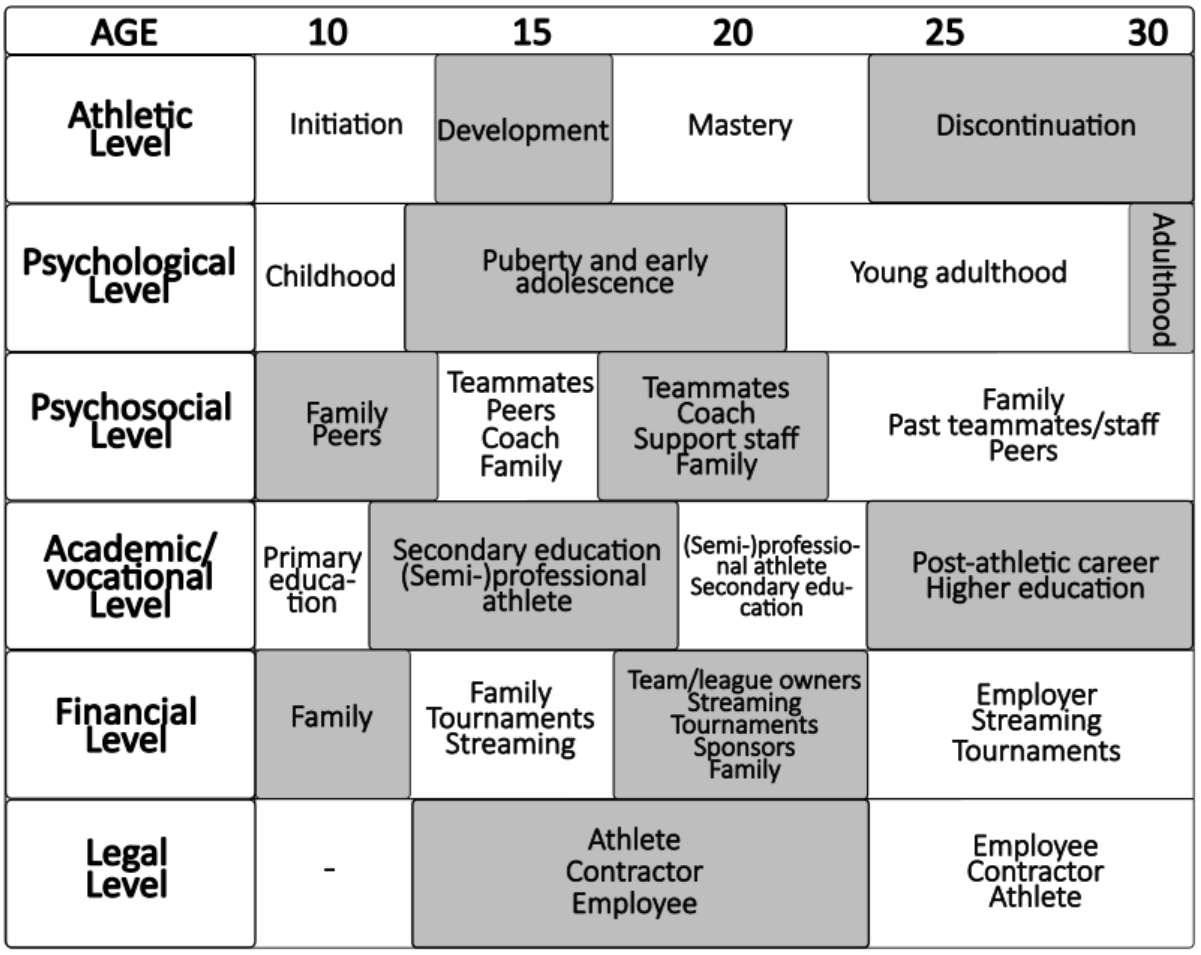
This review found that in most papers proposing models of esports athletic careers—barring Meng-Lewis et al. (2022)—career stages resemble those found in HAC, with key differences regarding onset and offset timing, as well as the inclusion of specific developmental levels. However, linear career views, including HAC, remain somewhat limited in fully describing esports athletic careers. This becomes evident when considering the breadth of KSAOs summarised in Table 5: beyond athletic development *per se* (game knowledge and skill), progression depends on abilities (e.g., attentional control, processing speed), psychological characteristics (e.g., motivation, resilience), social capital and communication skills, health literacies and routines, occupational literacies (e.g., contract and financial knowledge), and external conditions (e.g., infrastructure, policy, demographics).

Several of these, particularly “other characteristics” in the KSAO framework, remain without deeper consideration in most applications of HAC.

Nevertheless, HAC remains one of the more commonly used approaches to career modelling utilised in the reviewed studies (e.g., Hong, 2023; Hong & Hong, 2023; Salo, 2017), which makes complete sense as it is an athlete-focused model, and people professionally participating in esports are, indeed, athletes. Given current data, HAC still appears to fit esports athletic careers better than other available perspectives and, at this point, there is too little data to develop a different model in a grounded manner. With this in mind, based on the current results, this study adapted the HAC to esports athletic careers and created what is shown in Figure 9. It should be noted that the evidence, to some extent, supports augmenting this model with KSAO-informed domains and adopting a more non-linear approach in line with the reviewed works; including additional space for contextual factors and non-linear transitions. However, such extensive changes would require additional data explaining the specific influence of these elements, which will be gathered later. As such, this model summarizes the findings using HAC as the main framework and adjusting it to represent esports athletic careers as faithfully as the current data allow, without overextending; its validity is examined in later studies.

Figure 9

Initial model of esports athletic careers based on the HAC



A crucial distinction between this model and the original HAC (Figure 2 *vs.* Figure 9) lies in the earlier age brackets for the stages, reflecting both earlier initiation and termination of esports athletic careers. In this regard, esports bears similarities to traditional sports like gymnastics or rowing (Kerr & Dacyshyn, 2000; Wylleman & Lavallee, 2004), where career timing is also rather irregular. However, unlike in these traditional sport careers, career termination in esports typically stems from a decline in cognitive abilities rather than physical prowess (Thompson et al., 2014) as well as from changing game/publisher ecosystems. Such early initiation can considerably narrow future career possibilities, as athletes devoting most

of their time and resources to esports practice often have limited educational and vocational opportunities. This issue is particularly concerning since only a few attain true esports success, with most retiring upon realising they cannot sustain themselves solely through esports—many even during their first year of (semi)professional competition (Ward & Harmon, 2019). From a KSAO standpoint, this demonstrates the need to embed occupational skills (e.g., academic progression planning, financial literacy, contract literacy) and support structures (e.g., access to counselling, scholarships, apprenticeships) early in the pathway, so that short competitive windows do not foreclose later transitions.

Research suggests that the competencies and transferable skills gained during an esports career could benefit athletes in other professions if they decided to discontinue their esports pursuits (e.g., Anderson et al., 2018). Thus, even if a young person does nothing but participate in esports competitions, they are likely still to benefit from it to some extent. For instance, they may learn better communication and cooperation skills if they engage in team-based games (Anderson et al., 2018; Nielsen & Hanghøj, 2019).

Furthermore, the current model integrates the legal context, a dimension gaining recently more attention in HAC-related literature (e.g., López-Flores et al., 2021; Stambulova et al., 2021; Wylleman et al., 2013). Incorporating this developmental context is essential in esports, given uncertainties about the status of esports athletes and the nature of their work, both of which significantly influence other developmental areas (e.g., Hollist, 2015; Meng-Lewis et al., 2022; Ridenhour, 2019). For example, an undefined work status may allow employers to overlook health issues if there are no legal obligations to protect athletes. Considering that governmental and institutional support for esports is minimal in most countries (De Donder et al., 2022; Parshakov & Zavertiaeva, 2018), resolving these issues remains challenging.

Another notable change, compared to the original model, involves the financial context. Esports athletes typically receive minimal or no external support from governments and sports bodies throughout their athletic development. They often rely on inconsistent income from tournaments or streaming, which makes financial stability elusive (e.g., Taylor, 2012; Ward & Harmon, 2019). Consequently, many esports athletes lean on parental support as their main financial safety net. Such support, however, is often not present due to strong apprehensions towards esports, that, as previously noted, are usually rooted in concerns about the legitimacy of this career path (Jiow et al., 2018). Lack of support may both lead to unhealthy gaming culture (Nielsen & Hanghøj, 2019) or may deter their children from pursuing this career altogether (Meng-Lewis et al., 2020). This reality contrasts with traditional sports, which generally enjoy higher prestige, making them more accepted by parents and society and thus making it easier for athletes to secure funding from parents, stipends, and sponsors, as well as governmental assistance with competitions and training (e.g., De Donder et al., 2022; Parshakov & Zavertiaeva, 2018). Accordingly, financial literacy and time/finance management emerge as salient KSAOs even before mastery; when these are absent, support structures, like scholarships, athlete services and unions—can partially substitute individual deficits.

Nevertheless, this model overlooks many contextual and demographic factors influencing esports athletic careers due to limited data and intentional simplicity. Any career path—including esports—may vary widely depending on region of origin, gender, age, ethnicity, and other demographics. For instance, women's participation in esports might clash with societal expectations (e.g., Cullen, 2018; Taylor et al., 2009), while Chinese esports athletes risk ostracisation in mainstream Chinese culture (e.g., Meng-Lewis et al., 2022; Parshakov & Zavertiaeva, 2018). Similarly, individuals from diverse backgrounds may have differing levels of access to esports infrastructure and equipment (e.g., Fletcher, 2020; Scott

et al., 2021). Thus, while studies such as the one by Meng-Lewis et al. (2022) provide great insight into esports careers and ecosystem, their results remain region or culture locked due to relying on a homogeneous sample (in their case: Chinese participants). These factors map predominantly to the “other characteristics” KSAO bucket, indicating contextual limitations that cannot be trained and are difficult to influence directly. Considering the above, for modelling and practice, this implies a the need to develop knowledge and skills (teachable content and behaviors) while advocating or provisioning for “other characteristics" (infrastructure, legitimacy, safe contracts, visas) and recognising different ability constraints (e.g., reaction-time ceilings) when setting expectations and considering international teams or competitions.

2.5 Conclusions

Although this literature review offers a comprehensive overview of current models and KSAOs relevant to esports athletic careers, the dynamic nature of the industry calls for insights from present-day esports athletes, practitioners, stakeholders, and other specialists To address the limitations and gaps identified—particularly the absence of a unified model that reconciles both linear and non-linear career perspectives—this dissertation broadens its scope through a qualitative open-ended study (Study 2) and a set of semi-structured interviews (Study 3) with a variety of industry stakeholders and other participants. These studies aim to verify the proposed models and test the KSAO map in Table 5 for completeness, and practical relevance, ensuring that the theoretical framework aligns with the industry’s current realities. This approach is likely to offer a solid chance of determining whether the proposed model truly represents esports athletic careers, and if not, what changes are necessary. The intended outcome is a HAC-anchored model with a KSAO overlay that practitioners can use for selection, support, and development/transition/retirement planning. Finally, because this is a

scoping review, no formal risk-of-bias or effect-size analyses were conducted. Consequently, the current findings should be interpreted as a structured evidence landscape to be juxtaposed with empirical evidence, which in this case will include stakeholder data (Studies 2–3).

3. Study 2 | "Perceptions of esports and esports athleticism among gamers"[4]

3.1 Introduction

Often characterizations of esports and the associated careers arise from theoretical deliberations or the perceptions of scientists, not from the members of the community or the professionals themselves, as is evident from the literature review. Of course, some exceptions to this do exist, such as the work of Freeman and Wohn (2017), which explores the perspectives of both professional and amateur players, or the study conducted by Chang (2019) on consumer perceptions of esports. In Chang's study (2019), participants predominantly described esports in terms of entertainment, their proximity to traditional sports in terms of effort, and as a competitive activity with both learning opportunities and potential health risks. One participant argued that esports should be considered a separate category within the sports domain, due to the lack of physical activity.

From a different perspective, Örsoğlu et al. (2023) presented the viewpoints of young esports players on community and parental perceptions of esports. The authors revealed that esports is often perceived as something unfamiliar and potentially hazardous. Parents, as reported by the players, frequently dismissed their esports pursuits and failed to offer support, especially when compared to parents of traditional sport athletes. Players themselves perceived esports as a legitimate sport, with the potential even to surpass traditional sports.

Another study exploring community perspectives was Vilasís-Pamos & Pires (2022) who examined teens' perceptions of what a video gamer is. Among the created categories, the authors distinguished five types of gamers, two of which are related to esports: the Celebrity-Platform-Gamer and the Professional-Gamer. These types of gamers were both

[4] This chapter presents either exactly the same or modified fragments of a published paper: Trepanowski, R., Li, W., & Hamari, J. (2024a). Perceptions of esports and esports athleticism among gamers. In *International GamiFIN Conference* (pp. 10-22). CEUR Workshop Proceedings.

described as people playing for money, who showcased their talents and gained fame. Professional gamers, in particular, were seen as people who compete in tournaments and spend a lot of time practising. Esports itself was seen as a professional opportunity.

Adding to this, it is likely that perceptions of esports and esports athletes are shaped by the stereotypical views of gamers that bleed into perception of them. For example, some researchers suggest that perceptions of gamers as being unsuccessful, socially inept, childish, unattractive, or simply *couch potatoes* (Faust et al., 2013; Jin, 2010; Taylor, 2012), can also apply to esports athletes. Furthermore, stereotypes related to gender, race, or ethnicity can influence the perception of esports and esports athletes. These, for instance, might include the notion that women are under-skilled and less capable in esports than men (e.g., Madden et al., 2021; Schelfhout et al., 2017; Xue et al., 2019) or in a broader perspective, less effective in stereotypically masculine tasks. Moreover, in some cultures, gaming is perceived as a harmful, addictive, and dangerous activity, as seen in Chinese societal views (Lin & Zhao, 2024; Zhouxiang, 2016). Despite this body of work, there is a lack of empirical studies showing how these themes are reflected in broader societal perceptions of esports and associated careers. Although some studies on this topic have recently emerged (Chang, 2019; Örsoğlu et al., 2023; Vilasís-Pamos & Pires, 2022), particularly those centered on the professional perspective, a substantial research gap persists.

As indicated, this issue also arises in another under-studied area of esports—esports athletic careers. Since the mid-2010s, playing esports professionally has become a career option favored by young generations (Bányai et al., 2019; Bruce, 2021; Lee & Ting, 2015). This career path offers an opportunity to earn social status (Bányai et al., 2019; Kim & Thomas, 2018; Wagner, 2006) and make a living through various revenue streams, including player contracts, prize money, or sponsorship deals (Adamus, 2012; Faust et al., 2013; Newzoo, 2021). However, many questions about this career path remain unanswered. For

instance, what is the journey from a casual gamer to a professional?; what are the skills and broader KSAOs and efforts required in esports?; what are the risks and obstacles awaiting future esports players?; and where to draw the line between amateurs and professional esports athletes?

In a recent study (Wong et al., 2021), researchers conducted interviews with 25 Hong Kong teenagers and young adults, predominantly students around the age of 20, to investigate their perceptions of esports participation. Several challenges identified in the study resonated with those outlined in Salo's esports career model (Salo, 2017), including the need to maintain a balance between academic commitments and esports involvement, societal negativity towards esports, age limitations for practising esports, the brief career span of esports athletes, and the perceived lack of transferable skills upon discontinuation. However, some unique insights from amateur perspectives were also revealed, though specific to the Hong Kong region. Some interviewees noted a lack of parental support for their esports pursuits, while receiving encouragement from teachers and peers. Additionally, concerns were raised about the high cost of professional esports equipment, posing a barrier for aspiring esports enthusiasts seeking to initiate their careers. These insights align to a considerable extent with the findings described by Örsoğlu et al. (2023).

As presented in Study 1, to date relatively few studies have examined esports athletic careers and related topics. For example, scholars have modeled the transition from a casual gamer to a professional esports player (Kim & Thomas, 2018; Salo, 2017; Seo, 2016) and investigated gaming motivations of professional esports players (Bányai et al., 2019; Giakoni-Ramírez et al., 2022; Martončik, 2015; Weiss & Schiele, 2013). Smithies et al. (2020), for instance, explored the skills and experiences of esports players. Among this limited set, only a small number (e.g., Martončik, 2015; Wong et al., 2021) involved casual gamers; most were either theoretical or focused on professionals.

As the esports industry develops globally, there remains a limited understanding of how society and the gaming community perceive the career of an esports athlete. Such an understanding is crucial from an industry perspective, as it reveals what future esports talents expect from the industry. From an academic perspective, this offers valuable feedback from often-overlooked members of the esports community, serving as missing pieces to enhance future esports studies.

Considering this, although esports are well and often defined in the literature (Formosa et al., 2022), research lacks studies reporting how the gaming community perceives esports. Moreover, there are only a few studies showing how grassroots-level participants perceive esports athletic careers. These research gaps are substantial, as existing works fail to fully capture the diverse experiences and perspectives within the esports community, particularly those at the amateur level who may possess unique insights into the field. As suggested in the Esports Research Agenda (Cranmer et al., 2021), esports communities exhibit fragmentation across different layers, emphasizing the need for future studies not only at the industry level but also at the participant level. In an effort to address these research gaps and advance the understanding of non-professional perceptions of esports and esports careers, a qualitative exploratory study was conducted. Thematic analysis was conducted to provide insights into the complex nature of esports as both a competitive field and an emerging career path, and to deepen the understanding of esports athletic careers. This study expands on Study 1 by exploring perceptions of this career from a different point of view, namely an amateur perspective, complementing previous findings as well as those from Study 3. Specifically, this study: (1) elicits community perceptions of esports and esports athletic careers; (2) identifies which KSAOs are implicitly attributed to esports athletes; and (3) situates these perceptions, if relevant, within career path understanding. This creates an amateur-perspective lens to triangulate with the results from Study 1 and 3.

3.2 Materials and methods

An online questionnaire featuring eight open-ended questions was administered to explore the esports-related perceptions of individuals who were non-engaged with esports or engaged at an amateur level. The questionnaire was distributed via social media, namely Reddit and Facebook groups. The study was conducted after the first round of the literature review, however, it was published earlier, following a separate publication track. Selection of these platforms was based on their widespread use and availability for gaming- and esports-related discussions. For example, as of March 3, 2024, the subreddit r/gaming boasted 39 million members, r/leagueoflegends had 6.9 million, r/globaloffensive had 2.2 million, and r/esports had 159,000 members (Reddit, 2024), making these platforms rich sources of potential participants.

Participants were first asked to describe how they perceive esports and esports athletic careers, along with their perceptions of success and failure, both performance- and career-wise in esports (the current paper analyzes only the former). Subsequently, participants reported their socio-demographic characteristics and gaming habits. The set of questions used in the study is presented in the annex (Appendix 2; see also Appendices 3 and 4 for the consent form and RODO form—these were used in Study 3; for brevity, only these are attached). Only participants of legal age, not professional esports athletes, and without prior professional esports experience were included. No additional filtering criteria were employed.

A total of 156 individuals participated in the study. However, six responses were excluded due to non-serious or joke content, such as insulting remarks directed at specific individuals, and four were excluded because the respondents were professional esports athletes. This resulted in a final sample of 146 participants for the thematic analysis. The dataset comprises 292 answers, totalling 3.978 words with an average length of 13.62 words

per response (in the questions of interest for this study). Of the participants, 16 were women, 122 were men, and 8 identified as another gender or did not respond, with an average age of 25.88 years old (*SD* = 6.47, *Mdn* = 24). Gaming habits varied, with participants playing video games, on average, for 17.73 hours/week (*SD* = 15.13, *Mdn* = 14). On average, participants were engaged in esports for 8.74 years (*SD* = 6.28, *Mdn* = 8), while playing esports titles for 9.29 hours/week (*SD* = 13.42, *Mdn* = 5) and spectating esports for 2.42 hours/week (*SD* = 5.07, *Mdn* = 1). The participants originated from 33 countries, with a predominant representation from North America and Europe. Specific sociodemographics and gaming habits-related information for the final 146 participants are presented in Table 6.

Table 6

Participants' characteristics in Study 2

	N	*%*
Sex		
Man	122	83.56
Woman	16	10.96
Other/Refusal/Missing	8	5.48
Age		
< 20	15	10.27
20-29	97	66.44
30-39	27	18.49
40-49	5	3.42
50-59	1	0.68
Missing	1	0.68
Country		
United States	36	24.66
Poland	22	15.07
United Kingdom	20	13.70
Canada	10	6.85
France	8	5.48
Germany	7	4.79
Spain	5	3.42
Denmark	4	2.74
Australia	3	2.05
Czech Republic	3	2.05
Others*	27	17.49
Missing	1	0.68
Esports experience/years		
None	14	9.58
1-9	73	50.00

10-19	48	32.88
20+	10	6.85
Missing	1	0.68
Gaming hours/week		
None	2	1.36
1-19	88	60.27
20-39	38	26.03
40+	17	11.64
Missing	1	0.68
Esport hours/week		
None	31	21.23
1-19	94	64.38
20-39	14	9.59
40+	3	2.05
Missing	1	0.68
Esports spectating/hours		
None	60	41.09
1-19	81	55.48
20-39	1	0.68
40+	1	0.68
Missing	1	0.68
Esport engagement		
Amateur	107	73.29
None	38	26.71
Tournament participation		
Yes	61	41.78
No	85	58.22

Note. *Others include 2 participants from: Brazil, Greece, Italy, Netherlands, Singapore, and Sweden; 1 participant from: Albania, Argentina, Austria, Croatia, Cyprus, India, Ireland, Japan, Norway, Russia, Slovakia, Switzerland, Taiwan, Thailand, and Ukraine.

The disparity between the percentage of individuals with esports experience and those actively engaged in esports, either through playing or spectating, likely reflects the framing of the survey questions. Specifically, participants reported their experience in terms of cumulative years, while their engagement was assessed for the present period. Thus, even though some participants had extensive experience, their current engagement might be negligible. In fact, some participants noted that they only played esports games and did not spectate them, while others reported that they watched esports only during major tournaments, indicating minimal current engagement.

3.2.1 Analyses

Following Nowell et al. (2017) and Tong et al. (2007), this study used thematic analysis to identify emergent themes in definitions of esports and esports athletic careers. Two independent coders created categories without any pre-established framework, allowing for an inductive approach. Upon completion of the initial coding phase, the categories were standardized for consistency, adopting identical wording across the dataset. Some responses were assigned multiple codes. Inter-rater reliability was calculated to ensure the robustness of the coding process, yielding satisfactory results with intraclass correlation coefficient ICC = .83 and 90% compliance rate for the perceptions of esports, and with ICC = .70 and 85% compliance rate for the perceptions of esports careers. Per Koo and Li (2016), values between .50 and .75 indicate moderate reliability and values between .75 and .90 indicate good reliability (calculated in IBM SPSS 29). Thus, the current coefficients indicate moderate-to-good reliability. Discrepancies between the raters were resolved by the principal author. In addition, simple correlation analyses tested associations between themes and participants' sociodemographic characteristics and gaming habits.

3.3 Results

The initial codes were categorized into groups describing similar ideas, yielding sets of emergent themes, one for perceptions of esports and one for perceptions of esports athletic careers. For brevity, contradictory themes (e.g., perceiving esports as a "real" career path *vs.* a time-wasting activity) were combined and juxtaposed within a single major theme. In addition, a correlation analysis (calculated in Jamovi 2.3.28) was conducted, testing whether the emergent themes are related to different types of esports engagement and experience, as well as sociodemographic characteristics of the participants.

3.3.1 Esports

Answering the question of how they perceive esports, participants, in most cases, indicated its competitive and professional nature, with some considering it a pseudo-sport. Besides such perceptions, participants described it as entertainment both part of their daily lives, and something almost everyone can partake in, regardless of physical and mental predispositions. Unsurprisingly, esports were also described as an industry or a business. Based on the responses, four esports-related themes emerged: (1) Competitive professional gaming; (2) Accessible and inclusive entertainment; (3) Cultural phenomenon and lifestyle, (4) Economic and industry dynamics. Each theme is further described.

3.3.1.1 Competitive professional gaming. This theme considers esports a structured form of competitive gaming at a professional level, regardless of the game or genre played. Participants indicated that esports is no different than traditional sports, with organized tournaments, professional teams, and individual players competing for prestige, prizes, sponsorship, and business opportunities. Similarly to traditional sports, esports is seen as requiring a high skill level, tactical and strategic abilities, rigorous training, many cognitive abilities, and great dedication as well as other KSAOs.

> *(...) it's a high quality competition in video games. Whether that be speedrunning, a solo game like GTA Vice City, 1v1 games like SC BW, or team games like LoL. It's a direct competition between two or more people to see who is the better.* (Participant 60)

> *A professional environment for gamers to test and prove their skills to the world. This more often than not is in a Player vs Player format but does not have to be.* (Participant 7)

> *Playing video games at a very high competitive level, and competing for prizes at that level.* (Participant 82)

However, it was also not uncommon for esports to be considered a pseudo-sport or a joke. Participants often claimed that esports unsuccessfully aspires to be a “real” sport or that

the infusion of sports elements into games deviates from their original purpose, which is to be enjoyable. Furthermore, some participants believe that only specific games are eligible for esports status.

> *A parody of a sports discipline that, however, requires a lot of skill and training.* (Participant 134)

> *(...) Destroying a fun activity by tryharding.* (Participant 20)

> *To me, esports is competing in competitively viable video games. The definition of that will change from person to person. But I wouldn't consider a Mario Kart tournament to be esports but rather a community event. Where even a small Street Fighter tournament I'd consider esports.* (Participant 98)

3.3.1.2 Accessible and inclusive entertainment. Besides being seen as a professional area, esports is also perceived as entertainment that is both accessible and inclusive. This category captures the sentiment that esports provides a level playing field for individuals regardless of physical abilities, cultural background, or geographical location, differentiating it from traditional sports. There is a prevailing belief that esports, compared to traditional sports, are more likely to be accessible to individuals with various disabilities and those who may be otherwise marginalized or excluded from sport participation. As such, regardless of one's background, esports should be more available to people, although access still depends on technology.

> *Esports is true equality in sports. A physically-disabled person who could not participate in 'regular' sports can participate in Esports. In real sports, you have to have genetic advantages. Some people are taller (NBA) some people are faster or stronger. If a regular person trains as hard as these gifted people, they will not achieve the same level of greatness. In ESports, the main factor in skills is hours spent. A physically-disabled person who could not participate in 'regular' sports can participate in Esports, and there are many examples of physically disabled Esports players.* (...) *What I'm trying to say is that everyone should be able to chase 'greatness' through some kind of 'sport' and ESports allows hundreds of millions (if not billions) of other otherwise-ineligible people to become 'great'. (*Participant 8)

Almost all participants noted that esports are facilitated by technology, with most indicating the use of video games played on computers or gaming consoles usually via the

Internet. As such, while esports aspires to be an inclusive and accessible domain, the necessity for Internet access and gaming equipment may pose barriers to participation for individuals who are less affluent or reside in economically disadvantaged regions.

Sport, but with a computer (...) (Participant 146)

A sport played using computers and computer games. (Participant 128)

3.3.1.3 Cultural phenomenon and lifestyle. Participants also defined esports as a cultural phenomenon that extends beyond its competitive aspects. Esports, in this case, was described as a reflection of the growing digitization of society, influencing social behaviors and entertainment consumption. Participants identified esports as entertainment that includes playing esports games and spectating to relax and escape everyday life. Overall, esports have seamlessly integrated into the fabric of modern life, exerting a significant influence over consumption preferences and even social behaviors. Participants draw parallels between the spectatorship of esports and that of traditional sports, underscoring the cultural significance esports have assumed in contemporary society.

(...) entertainment to watch with a beer and chips. (Participant 115)

Something fun to do, a time well-spent. (Participant 142)

Esports is a beautiful variation of the sports we watch every day such as speedway or athletics (Participants 47)

What regular tv shows are for older people (Participant 72)

3.3.1.4 Economic and industry dynamics. The last esports-related theme identifies esports as a growing industry with its own ecosystem of sponsors, advertisers, and a global market. Participants note different career possibilities in this industry, including financial and economic aspects. Esports is seen as an evolving sector with significant investments and professional opportunities that align with broader trends in the entertainment and gaming

industries, including widespread monetisation of different aspects such as in-game possibilities or the competitions themselves.

> *Monetised and advertised competitive gaming, and everything that supports it, and everything that is produced by it. (...)* (Participant 65)

> *(...). Young sports industry that requires skill and sacrifice just like any sport.* (Participant 13)

However, participants also highlight numerous challenges within the industry, citing predatory practices and mismanagement in various domains. These issues are often attributed to an excessive focus on monetization or profit. Participants express concern that such practices are particularly harmful to young members of the esports community—both professional and casual players. Some participants note that originally esports was more focused on pure competition rather than profit, which changed with increased resources flowing into the industry.

> *A stumbling industry horribly mismanaged, for the most part (...)* (Participant 100)

> *Once it was a way for extremely competitive players to compete at the highest level. Now it is mostly a shady way for teams and companies to make money.* (Participant 49)

> *As most high-level sports, mostly an industry with shitty sponsors (crypto, gambling, etc...). In case of e-sports, especially preying on the young* (Participant 21)

3.3.2 Esports athletic careers

When the participants were asked to describe how they perceive esports athletic careers, they most often described them as "real" professional careers akin to that of a sportsperson or as a job. This is similar to their perceptions of esports itself, however with a stronger emphasis on skills, achievements, fame or economic viability. This career was often described as very precarious, unstable, and requiring great engagement at the cost of other areas of the athletes' lives. Participants also perceived these careers as requiring athletes to undertake numerous

professional roles at once to achieve sustainability. Based on this, five major career-related themes emerged: (1) Professionalism and skill development; (2) Economic viability and livelihood; (3) Instability and sacrifice; (4) Public perception and legitimacy; and (5) Diversity of roles; each is described below.

3.3.2.1 Professionalism and skill development. Participants put a particular emphasis on how in esports careers, just like in traditional sports careers, the keys are skill development and professionalism. They acknowledge the necessity for regular training, strategic thinking, and continuous improvement. This theme highlights the esports athletic career as highly competitive and as demanding not only innate talent but also a disciplined approach to refining gaming skills. Some participants indicate that like in traditional sports, career advancement is marked by achievements, such as advancing in rankings, winning tournaments, and gaining recognition within the community. Even further, a career as an esports athlete, according to some, begins only when one manages to earn enough to sustain oneself. In a few cases, participants described typical career paths of esports athletes, including progression through ranks and different levels of professionalism, starting from amateur participation, all the way to high-stake tournaments.

> *The same as a sports career. I believe that one can speak of an 'esports career' from the moment one starts playing in a professional team/on professional tournaments and it begins to yield profits.* (Participant 30)

> *Getting good enough at an e-sports game that you perform well in smaller tournaments, then join an established team or organization to train and go (semi-) professional.* (Participant 12)

> *Regularly training in a given game to improve one's performance in competitions* (Participant 38)

3.3.2.2 Economic viability and livelihood. This theme captures perceptions that esports athletic careers are a viable career path or a job allowing to earn money and even to self-sustain. The ability to secure a stable income through various revenue streams such as

sponsorships, prize money, and contracts with professional teams is central to this theme. Some participants highlight that esports athletic careers are seldom the sole source of income, with many professionals often combining competition with other income generating activities, frequently embedded within the industry. The ability to self-sustain through esports is often described as contingent on the athlete's capacity to build a personal brand.

> (...) *If a player signs contracts with teams, has agreements with sponsors, and participates in competitions for which they are compensated, then in this case the similarity to classic, physical sports is significant.* (Participant 126)

> *Building your brand as a player in a particular game by achieving smaller or larger successes in tournaments, which translates into popularity and attracts sponsors and advertisers eager to sign contracts.* (Participant 58)

However, this viability is juxtaposed with precariousness, as only a select few can reach a level of having a sustainable source of income as an esports athlete. Participants acknowledge that in most cases such a career remains a distant dream.

> *Being exploited by a team or organization to work ridiculous hours for very little compensation. For a tiny tiny tiny percentage of people they can make okay money, but will likely have few ways of making it last.* (Participant 49)

3.3.2.3 Instability and sacrifice. In this theme, participants describe the career of an esports athlete as unstable and requiring personal sacrifice in many aspects. This includes abandoning other pursuits, education, and self-development in different areas. Participants also highlighted the challenges of maintaining a long-term career, indicating potential burnout, age restrictions, short career longevity, and market saturation. Additionally, participants note the potential health consequences stemming from stress due to career uncertainty and the constant demand to perform at a high level.

> *Unreliable. Very difficult to have, since games will tend to lose popularity over time and very few people will be able to play professionally. A lot of games only stay popular for a few years. Some games that will be able to keep their fans are the ones that keep getting new versions like Tekken and Super Smash Brothers.* (Participant 77)

> *Difficult to achieve, often short-lived and has a long line of failed people behind each success.* (Participants 87)

Joining a team, dedicating over 8 hours to continuous playing with the team and practicing. Lots of stress and an uncertain career. Burnout of pleasure from the game. (Participants 86)

3.3.2.4 Public perception and legitimacy. This theme encompasses societal perceptions of esports, mostly as a legitimate career that can be equated to that of a traditional sportsperson. Some participants, however, view it as a frivolous activity that wastes time and should not be treated as a real job, or should even be restricted. This dichotomy reflects broader societal attitudes towards gaming and the evolving nature of what constitutes a 'real' career. With such perception present, young people might feel discouraged from participating in esports-related activities. Thus, social perceptions of esports may facilitate or impede both career entrance and progression.

(...) to be honest? Losing in life. (Participant 20)

A bunch of fat guys playing video games and pretending to be actual athletes instead of getting a job. (Participant 11)

(...). It is exactly the same as the career of a sportsman. (Participant 9)

A considerable number of participants also perceived esports athletic careers as an aim or a dream for many young people, who see professional esports as something worth pursuing. Furthermore, esports athletes are viewed as celebrities or stars within their communities, serving as role models for those who aspire to follow in their footsteps.

Opportunity for young players who want to fulfill their dream of gaming. (Participant 47)

(...) A hidden dream. (Participant 113)

(...) and being a celebrity in this community's hierarchy. (Participant 36)

3.3.2.5 Diversity of roles. Finally, esports athletic careers were perceived as encompassing many different roles and paths at the same time. On the one hand, people interested in these careers should be, of course, athletes, but on the other, they may be required to be an entertainer, artist, or creator. Some participants also note that esports careers

should be differentiated into multiple paths, making athletes, streamers or content creators separate despite obvious overlaps. Importantly, being an esports athlete is perceived as only one of the possible paths within the industry. In addition, participants indicate that esports athletes should develop a multitude of different career skills, to transfer to other professions after retirement from professional competition.

> *(...) Only a select few will make money through tournaments. The only others I see being able to have esports as a career are streamers. If they have a large following, they will be able to retain some followers if they switch games.* (Participant 77)

> *Getting paid to compete in esports. Streaming is not an esports career, that is something separate.* (Participant 60)

> *Like other industries, there are many possible careers within esports. The most visible being of course, the professional player. Many people work behind the scenes to produce broadcasts. Some jobs require more dedication to the individual game being covered, while others are more general. The popularity of the game among non-professional players, is an important part of the viability of an esports scene (from a business point of view, there are exceptions)* (Participant 32)

3.3.3 Correlation analysis

Having different experiences with esports or gaming might be one of the factors determining how it is perceived. Consequently, a correlation analysis (Spearman's *rho*) was conducted between participants' characteristics and emergent themes. Each theme was coded as a binary variable indicating its presence or absence in a given response, resulting in nine variables for each response—four related to the perception of esports and five to esports athletic careers. This analysis is presented in Table 7. The themes in the table are presented in the same order as above.

Table 7

Correlation analysis between the themes and demographic and gaming-related variables

	E1	*E2*	*E3*	*E4*	*EC1*	*EC2*	*EC3*	*EC4*	*EC5*
Gender	-0.015	-0.064	0.018	0.052	-0.048	0.071	-0.052	0.060	0.117
Age	0.046	-0.157†	0.030	-0.062	-0.149†	0.077	0.023	0.058	0.003
Esports experience	0.048	0.058	0.048	-0.086	0.137	-0.040	0.116	-0.038	0.056
Gaming hours	0.015	-0.064	-0.029	0.162†	-0.002	0.074	-0.019	0.056	0.095
Esport hours	-0.027	0.055	0.074	0.027	0.096	-0.077	-0.065	-0.126	0.031
Esports spectating	-0.160†	0.169*	0.172*	0.018	0.237**	-0.168*	-0.100	-0.080	0.080
Esport engagement	-0.042	0.107	0.203*	-0.056	0.198*	-0.061	0.026	-0.135	0.041
Tournament participation	0.017	0.100	0.088	0.062	0.137	-0.078	0.014	-0.039	0.045

Note. E = Esport; EC - Esport career;

†p = 0.075–0.05, *p < 0.05, **p < 0.01

As Table 7 shows, a few significant correlations emerged. The variable that had the strongest association with the emergent themes is esports spectatorship: (1) a positive correlation with "Accessible and inclusive entertainment" (E2; .169); (2) a positive correlation with "Cultural phenomenon and lifestyle" (E3; .172); (3) a positive correlation with "Professionalism and skill development" (EC1; .237); and (4) a negative correlation with "Economic viability and livelihood" (EC2; -.168). Two more correlations were identified between esports engagement and: (1) "Cultural phenomenon and lifestyle" (E3; .203); and "Professionalism and skill development" (EC1; .198). Additionally, some near-significant correlations were observed, with one noteworthy finding being that older participants were less likely to perceive esports as entertainment and the esports career as a professional area.

This suggests that greater spectatorship and engagement with esports is more likely to be associated with its perception as entertainment and cultural phenomenon, indicating that theme is more often mentioned by people consuming esports more. In addition, those who watched more esports were more likely to describe it as a professional domain—seeing professional esports athletes play allows one to better understand the amount of work needed to perform well at that level. Interestingly, individuals who engaged more in esports spectatorship were less likely to perceive esports careers as economically viable; they may be more disillusioned with how the industry works due to high exposure to esports-related content.

3.4 Discussion

This study presents a qualitative exploration of societal perceptions of esports and esports athletic careers, accounting for the perspective of non-professional stakeholders. Through thematic analysis, findings reveal a complex perspective on both these domains as expressed by community members. These findings extend prior work by adding an under-explored perspective. In addition, current results implicitly inform understanding of the esports athletic career path and related KSAOs, indicating what amateurs believe are key competencies and conditions.

Regarding perceptions of esports, four themes emerged: (1) Competitive Professional Gaming, emphasizing esports as a high-skill, strategic, and competitive field akin to traditional sports; (2) Accessible and Inclusive Entertainment, highlighting how esports transcends physical, cultural, and geographical barriers; (3) Cultural Phenomenon and Lifestyle, indicating how esports influence contemporary culture, entertainment and social behaviors; and (4) Economic and Industry Dynamics, recognizing esports as unique economic ecosystem.

To a considerable extent, these dimensions align with those identified by Formosa et al., (2022; see Chapter 1) in their systematic review as well as with prior studies like Chang (2019) or Örsoğlu et al. (2023). However, one dimension that was previously identified, but not recognised by current participants as a significant aspect of esports is gambling. This is surprising, considering that the esports betting market reached USD 9,749 million in 2021 (Business Research Insights, 2023) and, as reported by the UK's Gambling Commission (2017) reported, 8.5% of adults have ever bet on esports. Thus, it is quite likely that at least some current participants took part in esports gambling. On the one hand, the used method may not have elicited gambling-related answers, or participants may not have perceived gambling as a key part of esports. On the other hand, participants might have chosen to hide their gambling activities, as it is a stigmatized activity where maintaining secrecy can be an effective method of stigma reduction (e.g., Hing et al., 2016; Quigley, 2022). Of course, it is also likely that current participants did not partake in gambling, thus rendering this theme unlikely to be listed.

Furthermore, relative to Chang's study (2019), this study did not identify a perception of esports as carrying significant consequences for physical health but only for mental health (i.e., stress and burnout). This finding is somewhat surprising, considering that numerous studies related to esports participation suggest potential consequences such as sleep pattern distortions (Gomes et al., 2021), obesity (Trotter et al., 2020), or various physical injuries (Difrancisco-Donoghue et al., 2019). This might indicate a lower social consciousness regarding the existence of such physical health problems in the context of esports. Within the KSAO framework, this implies under-recognition of health literacies and related behaviors among amateurs, despite their documented importance in Study 1.

This study has, however, identified an additional dimension related to how esports are perceived, which was not described by Formosa et al., (2022) namely—inclusivity and equality. Many participants noted the inclusive nature of esports, a discipline that, at least in principle, should equalise chances for all who wish to participate. Of course, this is not always the case, as even if skill acquisition is less dependent on physical attributes than in traditional sports, members of many groups still experience exclusion from competition. Researchers often indicate that one of such groups is women (Cullen, 2018; Madden et al., 2021; Schelfhout et al., 2021; Taylor, 2012) or individuals lacking resources to purchase gaming equipment. While the first issue is a deeper sociological problem (Hussain et al., 2021), the second is slowly being addressed, as in many regions, facilities and educational programs allowing for esports participation for these less affluent are being created (e.g., AhlmanEdu, 2023; Elegbede, 2023; Jenny et al., 2021; NASEF, 2023). Additionally, game design is gradually becoming more accommodating for players with disabilities (e.g., Altgram, 2023; Walker, 2023). As such, despite some difficulties, esports seem to be heading towards the ideal noted by the participants of this study. In KSAO terms, inclusivity and equality primarily sit in "other characteristics" (context, demographics, norms) and in support structures; they are not trainable but can be provisioned or mitigated through policy, access, and design.

As identified in this thematic analysis, esports are also perceived as a venue for professional and economically viable development with many possible career paths. However, some participants noted that despite such possibilities, the industry is not exactly sustainable at the moment. As emphasized by Cranmer et al. (2021), the esports industry exhibits fragmentation in various aspects, and there is a need for the development of sustainable business models to establish esports as a more stable, profitable, and well-respected career choice. Further, entering the industry might be difficult, regardless of

the desired position, as reflected in the work of Ward & Harmon (2019), who clearly show that esports is a "superstar market", where only a few may achieve true success. This is especially important considering that many young people aim to work in esports, viewing being an esports athlete as an occupation of dreams, as some participants claimed.

While exploring perceptions of these careers, five major themes emerged: (1) Professionalism and Skill Development, showing how esports is parallel to traditional sports in its emphasis on skill, training, and devotion of the athletes; (2) Economic Viability and Livelihood, indicating the potential for a sustainable income but also noting how precarious this career is; (3) Instability and Sacrifice, highlighting the personal and professional sacrifices that esports athletes often make; (4) Public Perception and Legitimacy, showing that societal perception towards esports careers remains ambivalent, sometimes still denying them the status of legitimate careers; (5) Diversity of Roles, highlighting the many roles that esports athletes need to undertake.

What, in the eye of the beholder, are esports athletic careers then? They are careers, just like traditional sports careers, that require plenty of devotion and sacrifice, and represent a source of income that is economically viable only for some. The difference between esports and traditional sports lies in the ambivalent social perception of their status and the necessity for esports athletes to undertake many roles concurrently in order to sustain themselves. Esports athletic careers appear to require a significant number of skills, abilities, and knowledge, including gaming expertise, high reaction times, cognitive flexibility, or even social skills. Participants also indicated that such careers seem to follow a predictable path, with several, at least for the current respondents, loosely described stages. Relating this to the HAC, these perceptions do indeed suggest stages reflecting initiation, development, mastery, and discontinuation, but also point to non-linear perturbations, such as industry volatility. Of

course, this perception is based on the views of amateurs, thus it may not hold when professional esports athletes are asked the same set of questions, as will be shown in Studies 3 and 3.1. Nevertheless, this is an important contribution, as it shows the wider and less explored perspective of people who are engaged in the industry from the outside, namely amateurs and spectators.

One interesting result regarding esports careers, concerns stereotypical views of esports athletes and their careers. Even though both video games and esports are pastimes popular among a considerable number of people (e.g., in Poland, almost 67% of the adult population play video games, while 25% are interested in esports specifically (Bobrowski et al., 2022)), negative perceptions of esports as a profession exist, even among people who participate in esports themselves. As the thematic analysis showed, esports athletes are still sometimes perceived through the lens of the stereotypical gamer—*a couch potato* (Lepp et al., 2023). The occupation itself, in turn, is sometimes seen as a waste of time, a pseudo-sport, or pseudo-work. However, this view was not a very strong sentiment in the current analysis, thus it is likely that in the wider society (at least among gamers), it might not be very prevailing. Within the KSAO framework, these stereotypes operate as "other characteristics" (legitimacy, stigma, social perception), potentially depressing opportunities and support irrespective of the remaining KSAO.

What is also necessary to note, is that perceptions of esports and esports athletic careers vary among members of the esports community, contingent on their traits and experiences in esports and gaming. As individuals gain experience and consume more esports content, particularly through spectatorship, they are more inclined to perceive esports careers as realms of professional development requiring dedication and skill (as current study showed). Simultaneously, they tend to view esports as not only entertainment but also a

significant cultural phenomenon. It should not surprise then, that people who watch esports tend to indicate that it is fun to do; however, with spectatorship comes greater appreciation for the craftsmanship involved in esports. Interestingly, those deeply engaged in spectatorship were less likely to believe that esports careers are economically viable. This may be attributed to insights gained during spectating, where individuals become acquainted with commentaries from athletes themselves, providing a more realistic portrayal of the challenges within this career. The generalisability of these findings to a broader societal context remains unexplored due to the limitations of the current dataset.

Furthermore, a noteworthy, albeit non-significant correlation has surfaced—older individuals were less likely to perceive esports careers as areas of professional development. Additionally, they were less likely to indicate that esports serves as a form of accessible and inclusive entertainment. Possibly, for older people, having a career in esports might not align with their preconceived notions of professional development associated with their upbringing and overall familiarity with the esports professional landscape. Those speculations, however, should be confirmed on a larger and more age-diverse sample.

In this understanding of esports, there is a need to draw a line between professional and amateur participation. Many participants conflated amateurs and professionals, indicating that a career as an esports athlete may be understood as simply playing video games. This, however, should not surprise, as even in the scientific literature, there is little showing at what point it could be claimed that a person becomes a professional esports athlete. If one looks at the current data, they could claim that this happens when someone either starts earning money or starts developing their skills with the aim of engaging at the highest level of competition. Such a normative transition or milestone event should then mark the beginning of an esports athletic careers. Referring to the HAC (Wylleman & Lavallee, 2004), such

transition likely occurs after completing the initiation career stage (if one considers developing of skills with an aim to compete) or after the development stage (if one considers profiting from esports). However, a question remains as to how much money one should earn, or how to measure the seriousness of engagement in athletic pursuits. Finding answers to these questions should prove beneficial not only for the industry but also for the athletes.

In the extant literature, esports professionals or esports athletic careers are not usually explicitly defined, the exception being a short definition provided by Freeman and Wohn (2017) describing professional players as someone in a professional team playing for tournaments, engaged in esports-related business, and streaming to make income. However, with such a limited number of definitions, previous research can be used to describe esports athletes and their careers by exploring existing selection criteria for including participants in research who are described as professional players. For instance, Ward & Harmon (2019) suggested that people who received monetary compensation for tournament participation can be considered professionals. However, they also noted that such earning by itself is not enough to claim that someone is a professional, as some people might have participated in a tournament simply for fun. Thus, earnings do not necessarily indicate whether someone is an amateur or a professional.

In a different perspective, Meng-Lewis et al. (2022) stated that esports professionals are “current and retired athletes working in the esports industry” (pp. 13). Thus again, esports professionals seem to be those who work in the industry and earn money by doing their jobs. Esports professionals can also be described as people who have “experienced esports" for a given time (Chansaengsee, 2023), who are competing or belonging to gaming leagues (Kim & Thomas, 2018), or who have greater skills and understanding than non-professionals and who practice rigorously (Madden & Harteveld, 2021). García-Lanzo & Chamarro (2016)

aimed to draw a distinction between amateurs and semi-professionals, showing that semi-professionals are more likely to spend more time on playing video games, less motivated by the game's story or lore, and more likely to be motivated by the desire to increase their own mental capacities. The current study, in turn, distinguished esports athletes and professionals by allowing participants to describe themselves as members of either group, virtually leaving the classification to them. Thus, these insights from the literature are consistent with the prevailing sentiment among amateurs, indicating that the distinction between professional and non-professional players is an amalgamation of self-development and economic viability. Regardless of where to draw the line between amateurs and professionals, researchers and amateurs alike seem to agree that being an esports athlete is a legitimate job through which one could gain fame and wealth by achieving success in video game competitions or belonging to leagues (Kim & Thomas, 2018).

3.5 Conclusion

This study offers insights into the perceptions of esports and esports athletic careers, an area still understudied. From the perspective of amateur esports athletes and the video gaming community, esports is viewed as competitive, inclusive, culturally influential, and a growing industry with diverse career opportunities. However, this study also reveals that individuals outside the industry perceive esports athletic careers as precarious and unstable, characterized by professional demands, economic challenges, a need for high competence, and mixed social perceptions. Moreover, the current study identified that, from the amateur perspective, the primary differences between esports professionals and amateurs lie in the effort invested in self-development in gaming and the economic opportunities associated with play. Importantly, these perceptions may vary depending on demographic characteristics and the level and type of engagement in esports.

Considering these findings, further work is needed to continue exploring this research area. This will help to distinguish more clearly between professional and non-professional athletes, aiding prospective esports athletes in understanding what is required to become a professional. Consequently, such players can form realistic expectations and plan their careers more effectively. As such, in further studies reported herein this debate will be continued. Next steps link directly to Study 1 and the initial HAC-anchored model, where this dissertation (1) validates and adjusts the stage structure and transitions; and (2) refines the KSAO map (Table 5) for completeness and timing.

4. Study 3 | Stakeholder interviews[5]

4.1 Introduction

Many previous works suggest that the results of a literature review can gain much greater practical relevance when discussed with those directly affected by its findings, that is the stakeholders (e.g., Arksey & O'Malley, 2005; Oliver, 2001; Tricco et al., 2018). In this study, stakeholders comprised professionals of different types from the esports industry. Arksey and O'Malley (2005) even proposed that such consultations may provide references to further studies that should be incorporated into the review. However, in the present project, consultations were conducted after the completion of the literature review, rather than recursively feeding back into it, because the aim was to first prepare a complete, initial model to be presented for discussion. This study, therefore, uses stakeholder consultation to test the initial HAC-anchored model and the set of KSAO from Study 1 against real-world practice.

As outlined in the discussion of Study 1, the initial model, while comprehensive, nonetheless omitted certain contextual and demographic factors. It largely disregarded issues such as career uncertainty, instability, and variability, instead portraying a somewhat idealized, linear vision of career progression. The literature (e.g., Meng-Lewis et al., 2022) suggests that such simplifications overlook the complex and often unpredictable nature of actual career paths in esports. To address these limitations—and following prior recommendations (e.g., Arksey & O'Malley, 2005)—the current study implemented an additional stage of stakeholder consultation. This step was designed to refine the model's structure; validate and extend the KSAO map from Study 1; and explore contextual

[5] This chapter presents either exactly the same or modified fragments of the following papers under review:

A. Trepanowski R., Wu L., Hamari, J. (2025). Competences, skills, knowledge and other factors influencing esports athletic careers progression. [in review]
B. Trepanowski R., Wu L., Hamari, J. (2025). Esports career model: a mixed methods review. [in review]
C. Trepanowski R., Wu L., Hamari, J. (2025). Is the esports industry sustainable? An interview study [in review]

constraints and other factors affecting the career. These interviews also aim to verify the proposed model and assess the relevance of the identified KSAOs in practice, ensuring that the theoretical framework aligns with the industry's current realities.

To that end, this study sought a maximally heterogeneous sample, spanning multiple specializations within the esports ecosystem, varied competitive game genres, a wide range of demographic backgrounds, and differing levels of professional experience. In addition to providing feedback on the proposed model, participants shared their perspectives on the structure and progression of esports careers, the role of KSAOs in shaping them, and other pertinent influences. This approach maximizes the likelihood of determining whether the model accurately captures the complexity of esports athletic careers—and, where it falls short, identifying the modifications necessary for it to do so.

4.2 Materials and methods

Fifty-four in-depth, semi-structured interviews were conducted with esports industry stakeholders to explore the specificities of esports athletic careers and the industry itself. The interviews took place between September 2023 and February 2024. Participants were recruited through multiple methods: (1) contacting stakeholders known to the researchers or their colleagues; (2) reaching out via email or LinkedIn to key game developers, sponsors, teams, federations, and similar organizations; (3) approaching individuals representing different industry roles (e.g., esports athletes, content creators, media, educators) on LinkedIn; and (4) employing a snowballing method during the interviews to identify additional prospective participants. The recruitment strategy aimed to cover various continents, industry roles, and organization types, ensuring a wide range of perspectives on the industry and its athletes. Over 500 organizations and individuals were contacted, yielding a participation rate of approximately 10%. In many instances, no response was received;

some organizations declined participation due to internal policies or conflicts tied to global politics (e.g., the Russo-Ukrainian War). Selection criteria included prior industry experience and being of legal age. Interviews were conducted in English, except for three in Chinese, which were live-translated. Three interviews were conducted in person, and the rest online. Importantly, any professional participation in esports mentioned in this study, as well as occupational experiences, were self-defined by the participants. For RODO (GDPR) from, consent form, and interview outline see Appendices 3, 4, and 5.

While the interviews included nearly thirty questions on the industry and athletes, this paper focuses only on particular areas. These include demographic questions (e.g., age, sex, gender, place of residence, ethnicity), professional and athletic experience in the industry, perceptions or definitions of an esports athletic career, specification of the career progression (if any set path was identified), and KSAOs influencing or needed in esports athletic careers. Additionally, stakeholders were consulted on the initial model of esports athletic careers introduced earlier.

On average, the complete interview lasted 1 hour 19 minutes 13 seconds (ranging from 40 minutes 34 seconds to 3 hours 12 minutes 8 seconds), totaling 71 hours 17 minutes 37 seconds of interview time. The participants included eleven women, forty men, one trans man, and two non-binary individuals, with an average age of 33.14 years (Min = 21, Max = 62, SD = 8.76, Mdn = 32). They represented 26 countries and multiple ethnicities. Of the participants, 25 had prior professional esports athletic experience. The remaining demographic data are shown in Table 8, and the participants' countries of origin are shown in Figure 10.

Table 8

Interview participants demographic data

Demographic variable	N	%
Age		
20-29	19	35.2%
30-39	25	46.3%
40-49	6	11.1%
50-59	3	5.6%
60+	1	1.9%
Gender		
Man	40	74.1%
Woman	11	20.4%
Transgender	1	1.9%
Non-binary	2	3.7%
Ethnicity		
White	32	59.3%
Asian	8	14.8%
Black	8	14.8%
Arabic	2	3.7%
Hispanic	2	3.7%
Indian	2	3.7%
Esports athletic experience*		
None	29	53.7%
Semi-professional	8	14.8%
Professional	17	31.5%
Area of expertise**		**% of total**
(Semi-)professional esports athletes	25	46.3%
Performance optimisation***	10	18.5%
Media	7	13.0%
Events organisation	18	33.3%
Information & Technology	3	5.6%
Communication	2	3.7%
Sales & Marketing	4	7.4%

Business	7	13.0%
Administration	3	5.6%
Education	13	24.1%
Entertainment	5	9.3%
Game support & development	1	1.9%
Investing/Sponsorship	2	3.7%
Government/Ruling bodies	4	7.4%

*Played games: Battlefield 4, Brawlhalla, Call of Duty, Counter Strike (1.6; GO; 2), DOTA (1, 2), EA FIFA, League of Legends, Mortal Kombat, Overwatch, StarCraft (1, 2), Super Smash Bros., Tekken, Valorant.

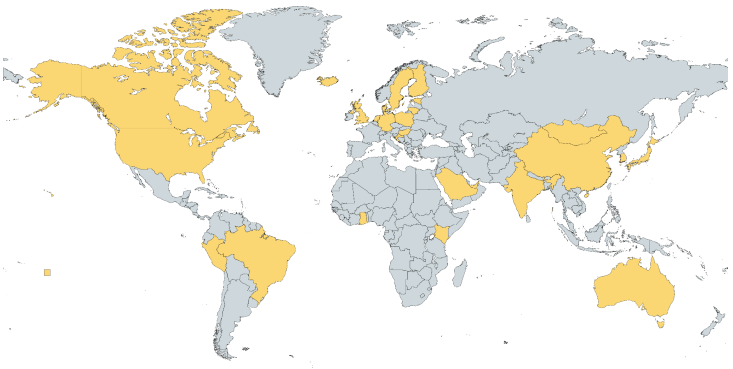
**Numerous participants reported more than one role

***Not including professional esports athletes

As shown in Table 8, recruitment focused on enlisting participants from a diverse range of esports industry areas and levels of experience to achieve a comprehensive view of the topic. The areas of expertise were coded using Scholz's ecosystem model (Scholz, 2020) and Besombes' (2019) esports professions categorization (published in Scott et al., 2021). These models provided complementary perspectives for categorizing participant expertise. For confidentiality reasons, participants' workplaces or specific identities remain undisclosed. Further quotes from the interviews will be attributed by participant number and current profession.

Figure 10

Countries of interview participants



4.3 Results

The data was analysed using thematic analysis (e.g., Nowell et al., 2017; Tong et al., 2007). Two independent coders generated categories without a pre-established framework, resolving any discrepancies through discussion with the principal author. Four main areas were examined: first, the stakeholders' perceptions of esports athletic careers, followed by an analysis of the career pathways—or lack thereof. Next, the study examined the KSAOs. Finally, the validity of the model proposed in Study 1 was evaluated. The findings are presented in the following subsections in this order.

4.3.1 Understanding the career

Before turning to career pathways and influencing factors, it is important—as in Study 2—to clarify what this career is and how participants define it. This provides a reference point for interpreting subsequent views. Often, the participants described esports as a professional path involving competitive video gaming at an organized level, regardless of the specific game genre or esports type. They believed that this career is complex and demands a diverse set of abilities and skills, including for instance well-developed social skills or cognitive abilities such as high reaction time, cognitive flexibility, and intelligence. Stakeholders generally agreed that this career begins with a decision to enter the industry and is often structured in a staged way.

> *(...) is like the path to being an esports athlete (...)* (Participant 1, Tournament organizer)

> *Career is when you first realize you want to enter the industry, that's how your career begins. And then if you are tired from the industry you get retired, and maybe one day you want to come back, your passion comes back, and you can easily say like, okay, I'm a professional player again.* (Participant 4, Journalist)

Participants highlighted that an esports career typically progresses from casual gaming to professional status, requiring formal training and continuous skill enhancement,

often supported by team and organisational structures. Even when not directly prompted, participants described this progression as involving specific stages, suggesting a structured approach as a defining characteristic of such careers. However, they also emphasized that, unlike traditional careers—where the trajectory might be more predictable—an esports athletic career features considerable randomness and unpredictability. This stems from numerous factors, such as uncertain game popularity, sudden layoffs, limited regulation of competitions, financial volatility, and so forth. Some remarked that one cannot currently call esports engagement a "sports" career because of this unpredictability or due to the perceived lack of physical abilities required for competition. One participant even suggested that this career resembles an entertainer's career more than that of a sportsperson. Several participants also noted that this career is only viable in more developed regions, rendering it less accessible in places like parts of Central Africa, where the infrastructure and support systems remain underdeveloped. Nevertheless, most participants recognized esports as a legitimate career path akin to traditional sports careers.

> *Well, I think it follows that of a traditional sports athlete. That you find an interest in a game that you like. You compete in that game, you play it casually, you play soccer out with your friends, and then you try out for the elementary team, and then you're on a travel team, and then you're on the high school team, and you start getting recruited. I think it mirrors that very much. At least that's where it's going. I want to say where it is right now.* (Participant 32, Educator)

> *I mean, you start playing video games casually, figure out you're good at it. Do that for a large part of your life from like probably five, six, seven, eight, nine years old. Peek at around adolescence through very early adulthood, and then leave.* (Participant 8, Federation head)

4.3.2 The career path

Mirroring the findings from the literature review, participants expressed two primary perspectives on the esports athlete's career path: linear and non-linear. In the linear perspective, the pathway often comprised between two and seven stages (M = 4.13; SD =

1.13; *Mdn* = 4), generally resembling those in the HAC model—initiation, development, mastery, and discontinuation. In contrast, the non-linear perspective either denied the existence of distinct stages or argued that such stages are difficult to define because of multiple constraints. Both perspectives, along with corresponding quotes, are presented below.

4.3.2.1 Linear perspective

4.3.2.1.1 Initiation and development. Nearly all participants indicated that there is some sort of initiation or introduction at the beginning of the esports journey, not always being a beginning of a career, but more of a simple learning of what games are. During this initiation stage, when an esports athletic career may begin, engagement remains purely recreational. This early phase is marked by playing for fun—often with friends or family—without any intent to pursue professional opportunities. Throughout this period, a fundamental love for gaming takes hold, accompanied by a competitive spirit, fueled by passion, enjoyment, and a growing interest in skill improvement and deeper game understanding.

> *It has to come naturally from a love of playing video games to some degree, even if it's the most casual game (...)* (Participant 17, Educator)

> *I would say that there is this initiation period when you first fall in love with the game and you start to learn about its rules and how to operate within them and then you become like intermediate (...). The first game first phase is more about play and pleasure and discovery and exploration* (Participant 21, Psychologist)

As players progress beyond the initiation stage, they enhance their skills and engage more deeply with the gaming community, shifting toward more competitive play. This transition commonly includes joining amateur teams, attending local LAN parties, or participating in smaller online competitions, eventually leading to larger, more formal

tournaments. At this juncture, the idea of turning a passion into a profession starts to take shape. The transition point between being an amateur and an esports athlete is often identified as the moment a player decides to pursue esports as a professional career. This decision may be influenced by personal ambition, encouragement and recognition from peers and the community. Being scouted by an esports team based on public rankings or performance can also bring about this decision. Early competitive successes additionally act as motivators to pursue more serious gaming endeavors. Ideally, support from parents and schools would facilitate this choice; however, due to limited societal understanding of esports, parents and educators often overlook or dismiss young people's esports pursuits, not only failing to support this career choice but sometimes actively discouraging it. Such support, as many stakeholders indicated, is key for developing the belief in the validity of an esports athletic career as well as personal high self-efficacy in this area. Consequently, without adequate support, many players may choose not to pursue a professional path and remain indefinitely as amateurs.

> *I think at some point, if you're going to have an athletic career, which we talked about in terms of being professional, you have to make that jump from grassroots and kind of playing in a small team into something more. You have to either go to a LAN or go to an event, (...)* [where] *specific games and they have cash prizes and you meet teammates. (Participant 17, Educator)*

> *So for instance, in our first year of business, we had a kid who had never played Rocket League before. Within five months, he was a champ one rank. And to me, that was like a sign that this is not your typical like, development arc. Like clearly this kid actually has a really specific talent here that is almost explosive. So if he kept with it, you know, who knows where he could go. But you know, I don't think he was that interested in eSports. He just wanted to play for fun.* (Participant 33, Educator)

With the decision to turn professional, athletes increase their training commitment and may adjust their career and educational plans to align with their esports ambitions. This commitment to professional gaming often involves sacrifices, including reductions in

educational pursuits and social activities. This may reduce their chances of developing deeper relationships, particularly romantic ones, as well as limit opportunities to pursue higher education. Participants indicated that lucky players might receive an esports stipend, thus being able to fully pursue a dual career. Besides lifestyle changes, entering the realm of professional esports is marked by structured training schedules or joining a higher-level team. Following this, players often move between teams and, with some luck, advance to the next stage, competing at higher levels.

4.3.2.1.2 Mastery. The mastery stage begins when an athlete joins a professional team or organization or, as some participants noted, earns enough to sustain themselves through esports. At this level, athletes, with the help of their support staff, restructure their training and refine gameplay techniques to meet industry standards. They continue cultivating career skills, studying advanced strategies, and developing teamwork. Accordingly, they build in-game skills and off-game competencies, including legal and marketing knowledge, streaming expertise, or the ability to create an attractive public image. Participants stressed the significance of adaptability and continuous learning for success in professional play, citing the steep learning curve upon entry.

> *I think when it comes to sports athletic career is a journey marked by skill development, like in many other sports, traditional sports careers, it could be full with competitive achievements, personal growth within the sports industry, it involves a dedicated participation in tournaments, also, because that's with the recognition part comes in continuous improvement of gameplay adaptability and evolving today, always changing sports landscape.* (Participant 52, Legal specialist)

> *Having a group, okay, not rather a group, a team that works towards your success, right? This could be getting resources for you, which you don't have, a coach helping you with your practice. I've never really thought about the whole esports career because mine was, mine seems to be short because other guys are coming up first.* (Participant 38, Professional esports athlete)

However, being in the mastery stage does not imply finality. Another progression ladder comes into play, compelling athletes to compete within their organizations for main-team positions or climb through various leagues. As athletes move forward, longevity becomes the goal—exemplified by competing in international tournaments, continuously evolving their playstyles, and preserving both physical and mental well-being. Participants highlighted the challenges of staying at the top in this highly competitive landscape: short career spans, lack of safety nets, health risks, and the intense pressure of constant high-level performance. As already noted, professional players talked about missing out on education, relationships, or general life skills.

> *Working in* [a professional Counter Strike team; anonymized], *I could see how players were affected by this. The constant traveling, playing tournaments, having to perform all the time. And we saw at least two or three players suffer from burnout, and being open about it. And because you just reach a point where you don't have time to see your family, you don't have time to practice, you don't get better, you play, you play worse, you get more and more stress, and suddenly you're kicked off the team, for example, or you need medical leave and everything. And we have seen examples in League of Legends as well. But it's still something that people don't really talk about. And that's also like a thing of being a professional esports athlete with all that comes, because people at home think it's just traveling in the world playing computer. And it is, to some extent. So going out and telling people like this lifestyle that seems so amazing is actually kind of rough.* (Participant 53, Consultant)

4.3.2.1.3 Discontinuation. Because this career restricts a number of significant areas of an athlete's life, many esports players opt for early retirement or are compelled to do so, when they no longer meet competitive or organisational expectations. Termination often leads to either resuming education or switching to another esports-related field, such as coaching, team management, content creation, or broader gaming businesses. Some athletes exit esports entirely, seeking to leverage their knowledge and experience outside of the industry. Discontinuation can occur at any stage, driven by burnout, industry pressures, insufficient progression opportunities, health challenges, or personal considerations. Participants frequently identified the industry's inherent instability as a major cause of early retirement.

> *For a lot of the star players (...) their name is their own brand, (...) once they have that name brand, pretty much they follow (...) the celebrity type of path, so they end up having their own line of business, like, it could be a restaurant, it could be an online shopping mall, you name it, and some made a fortune out of that, some don't. A lot of the Korean star players end up, you know, actually shifting titles, from esports to say poker, (...) and some become just a celebrity and the television, so (...) they frequently appear in the television show too. (...) But not everybody has that and so we have cases who actually become working as a game tester in a game company because that's what they're good at. (...). There's actually quite a lot of YouTube video out there, like interviewing the [past] star players (...) what are they doing nowadays and it's pretty interesting to see because, you know, they all went through all different paths, some just become a regular, like, salaryman at a company and they're doing something different and they're very satisfied with what they're doing, but some, like, they're still finding out what they want to do.* (Participant 42; Professional esports athlete)

Many participants discussed the necessity of future planning, including exploring roles in the broader esports ecosystem. Such transitions depend on the athlete's KSAOs and the networks they cultivated during competition. Absent those elements, many athletes end up with few prospects. Participants highlighted the lack of safety nets, bargaining bodies, or educational programs that could boost post-esports outcomes. Members of organizations that employ or mentor esports athletes acknowledged these problems and claimed to be working

on possible solutions, including in-school teaching of future-related skills or special programs designed to prepare active esports athletes for post-competition careers.

> *They're not thinking about their future well enough. So when they get the money, they just spend it on house and cars and nightclubs and things like that. But it's so rare that you'll see some of them actually investing it into their future, putting it into creating businesses for themselves. And if they did that, if more and more did that, then yes, esports will become a very good profession because at least you're not wasting your money. And the moment it* [money] *stops coming in, you won't face any issues with it because you already have investments* (Participant 18; Business owner)

4.3.2.2 Non-linear perspective. Given the inherent uncertainties in esports careers, many participants advocated a non-linear perspective. According to them, the path comprises broad, hard-to-distinguish stages and displays considerable non-linearity. In this view, even if certain stages are to be discernible, they may not occur in a fixed order—if they occur at all. In such a case, for instance, a prospective athlete might be discovered by a talent scout during casual gameplay and then invited to a professional team's academy roster, omitting the development stage altogether. Overall, career progression is inherently chaotic and unpredictable, influenced by numerous variables that are difficult, if not impossible, to fully anticipate and plan for.

> *(...) mastery can come at any level, (...) depending on the game. so that it's not as linear as this makes it seem* (Participant 50; Educator)

Participants cited examples in which luck, unexpected setbacks, changes in game design, or developer decisions disrupt careers. For example, the competitive scene of some games has been abruptly altered or even dismantled due to decisions made by developers, as seen with Blizzard's *Heroes of the Storm* or Hi-Rez's *Tribes: Ascend*. In addition, the constant flux of the gaming landscape, characterized by frequent patches or changes in the game meta, can dramatically alter gameplay and the skills required to compete, meaning the skills and knowledge an individual possesses may become obsolete within a matter of

moments. Thus, the stakeholders stressed the need for cognitive flexibility to adapt to these ever-changing conditions. Moreover, the esports industry is closely tied to technological advances and market trends, which can suddenly propel niche games to mainstream popularity or reduce established games to obsolescence, causing careers to start or end overnight.

> *You have to be responsible for everything relating to your success. So the path by which most players make it into the professional scene is so varied and so different that you can't really talk about a set path. It's not like, okay, I'll practice here, I'll compete here, then if I do well, I can get into here and I can get recruited there* (Participant 23, Coach)

> *It's a dangerous profession because there aren't really regulations other than the regulations based on the publishers that actually protects the players, depending on how the government sees it.* (Participant 18; Business owner)

Unlike structured traditional sports careers, esports often requires athletes to manage all aspects of their own success. The route to professional play differs greatly from person to person, with no standardized route to follow. In more conventional fields, career pathways are clearer; in esports, athletes navigate a complex space with scant guidance or resources, at least at the beginning of their careers or in regions with less-developed esports infrastructure. Participants highlighted personal agency, adaptability, and resilience as crucial for handling these challenges.

Some participants also addressed alternative pathways shaped by specific game titles, regional contexts, or educational opportunities related to esports. While esports is increasingly integrated into educational structures, this remains a relatively new trend and varies widely internationally. In countries like South Korea, with a strong esports heritage, institutions provide clear paths to high-level competition. There are schools, teams, and other institutions focused exclusively on the development of professional esports players. In

European countries it is not uncommon for local sport organizations to have esports facilities, fostering healthy competition for young people. In contrast, such systems have only recently been introduced in regions such as the United States, Japan, or India. To complicate it even more, governmental regulations may differ between regions changing the industrial landscape.

Take China for example. While the government supports esports itself, facilitating professional competitions and tournaments, it condones video games engagement among young people and imposes restrictions on gaming for individuals under 18. This significantly impacts the early stages of career development in esports, either making it impossible or requiring highly unconventional workarounds. For instance, some stakeholders mentioned that young Chinese esports athletes may use accounts of their family members, play in public spaces, attempt to circumvent regulations in some other way or simply aim to join a youth esports team, which can be somewhat difficult without practice. An historical analogy is Poland in the late PRL (Polish People's Republic): to buy quality paints one first needed to be recognised as an artist (e.g., via an association card; Zawistowski, 2018)—a circular constraint similar to youth access limits in China. As such, a Chinese esports athlete may follow a completely different career path than European or Korean one.

Not only local regulations or support structures influence the onset of this career path. In Central African countries for instance, esports competition exists and fares quite well, but the rest of the world knows little about it, as the African stakeholders noted. Limited exposure of African esports may be a consequence of their limited opportunities (and likely *vice versa*). As one of the participants said, to learn to play, one needs to expose themselves to new challenges, and it is difficult to do so without access to proper Internet and gaming equipment, when the only competition available is the same people around them. As esports

practice greatly depends on availability of technology, secondary or even tertiary tech markets lag behind. On top of this, even if one earns enough to acquire new gear and a good Internet connection, many African countries and regions simply lack access to gaming servers, forcing players either not to compete or to do so with extreme latency. Additional impediments—limited international recognition, minimal overseas tournament representation, and corruption within federations—further hinder career trajectories. As such, typical staged career pathways seem to require significant modifications when these contextual factors are taken into consideration.

> *If you're playing in Europe, you have a clear path. You know there's this schedule and this is what I do to get to the competitive level. If you're playing in Africa, it's almost not guaranteed and that's why a federation should really work in creating a national league. If you're playing in Africa, you have no guarantees. You may go for a year without a tournament that gives you money. See, that's a challenge. So when you speak of an esports career, the esports career in Africa or in Asia, in South America and Europe is very different.* (Participant 37; Federation head)

> *Yeah, pretty, pretty much depends on the game. So you have an age limit for most games. Anyway, Germany is very strict. Counter Strike is plus 16. I think Rainbow Six or Call of Duty are 18 plus. Escape from Tarkov is plus 18 and so on and so forth. So you need to obviously be on that age limit already.* (Participant 51; PR head)

> *Yeah, in China, everything starts at 18. You know that, right? People are not supposed to play any video games until they're 18 in China. This is the new law. You have to be an adult to use your ID to register the game first. You have to be 18 to be free. And if you are under 18, you have only two hours to play during each weekend. So this model does not work in China at all* (Participant 14; Journalist)

Moreover, some participants suggested that a cyclical or recursive perspective might better describe esports careers, blending elements of both linear and non-linear models. In this view, careers comprise distinct stages that may follow a general sequence but frequently diverge due to expected or unexpected transitions. Athletes can return to earlier stages without restarting entirely. For example, someone might rise from amateur leagues to the professional sphere but later abandon it for financial or personal reasons, only to re-enter with

improved connections or a new game title. Often, before progressing to mastery—despite an initial decision to go pro—athletes temporarily quit, only to return later when circumstances are more favorable. For instance, after finishing education or finding a better-suited title. Under this view, the players need to meet a specific set of circumstances and possess a specific set of abilities, and only then do they proceed further with their careers. Upon reaching the next stage, whichever it might be, they again need to meet some conditions or circle back to the previous stage, assuming they have not decided to discontinue their careers. Hence, this cyclical view underscores the need for certain conditions and abilities to move forward, acknowledging that players might loop back or discontinue at any time.

> *And then if you are tired from the industry you get retired, and maybe one day you want to come back, your passion comes back, and you can easily say like, okay, I'm a professional player again.* (Participant 4; Journalist)

> *So if you want to be good at CS, it's constantly about practicing, practicing, practicing, and competing in as many tournaments as possible. It is super hard, but you need to be, you know, like super dedicated and don't take the quick bucks and go become a streamer because that's what most good players do. If they get bored of grinding they see that, oh, I can become popular if I just do stream* (Participant 9; Journalist)

4.3.3 KSAOs identified in the interviews

As in Study 1, this study also systematized the KSAOs needed to begin, sustain, and progress in esports athletic careers, this time, from the perspective of professional stakeholders. Semi-structured interviews were coded inductively and then organised into nine areas: (1) game skills and game analysis; (2) cognitive functions; (3) physical and mental health; (4) psychological factors; (5) social skills; (6) occupational skills; (7) digital skills; (8) ethical adherence; and (9) other conditions and factors. Specific factors, their descriptions, KSAO-coded sub-factors and example quotes related to these areas are presented in Table 9. Again, this table, like Table 5, should be treated more like a conceptual map, rather than a rigid taxonomy. Each sub-factor is coded to represent knowledge, skills, abilities or "other

characteristics" where applicable. Several items are split between different categories due to their scope. The table represents professional perspectives only, and thus is not exhaustive.

Table 9

KSAOs important in esports athletic careers as identified in the interviews

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
Game skills and game analysis	Gaming-specific know-how; factors associated with in-game efficiency; knowledge and expertise regarding the game itself as well as the ability to execute strategies and tactics.	- In-game mechanics (e.g., aiming, APM, precision in executing in-game mechanics) (S/A) - Game knowledge (e.g., staying up-to-date with updates, specialization in the played title, terminology, metagaming) (K) - Tactical & strategic decision-making (S)	*Taking League of Legends as an example. So the very basic skills, it's about the basic in-game mechanics. For example, you have to kill enough minions within one minute, for example, no less than 10 minions within one minute. And you have to be good at casting the spells. Those are very basic skills. And above that, you have to do research on your playing styles and your opponents. And even above that, you have to do research about your playing style, your opponent. You have to understand your teammates very well. You have to do research of the current methods, the current version, and do research and to think out of the box to develop new stuff.* (Participant 14; Journalist) *So I think there is no esports where you can't, where you don't need to just do a lot of mechanical practice. That's the one that's like common to everything and then you know depending on the game you might also have the whole sort of the game changing and updates and stuff like that. So for example someone who plays competitive Tetris probably doesn't need to worry about that too much but obviously the more common esports are much more involved in that sense.* (Participant 25; Amateur esports athlete) *Like checking the news about stuff. You have to be updated in esports. And the changes can happen very, very fast. Suddenly your main character can be gone off under the shelf.* (Participant 31; Community manager)
Cognitive functions	Mental capacities and capabilities directing knowledge consolidation into skill and adaptation to changing game states.	- Reaction time and processing speed (A) - Effective decision-making (A/S) - Problem solving (A/S) - Cognitive flexibility (A) - Hand-eye coordination (S) - Spatial understanding (S) - Working and long-term memory (A) - Anticipation/prediction, as in foreseeing possible outcomes of own/others' actions (S)	*There's a lot of vision and sensory skills that esport athletes have to master and keep enhancing throughout their careers. This ranges from contrast sensitivity, dynamic vision, go/no-go, reaction time, reflexes, and all the stuff that could be measured and tested and trained. (...) Here's the thing, and this is important to note, different types of esport titles, different types of games, require different types of vision skills. A game like Call of Duty or Counter -Strike will require a totally different set of skills than a game like League of Legends or an RTS game like Starcraft.* (Participant 48; Producer) *Gamers in general (...) will develop a sense of feeling or the ability to make decisions very fast, because inside the game, you have to make a decision in a*

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
			fraction of a second. (Participant 18; Business owner) *You also need to adapt. Maybe when you are not playing your role, when you are playing something else in your team, you need to understand and you need to adapt and change quickly.* (Participant 35; Business owner) *Definitely hand eye coordination.* (Participant 15; Journalist) *In my experience, what I found was that when I finished my first stage of my pro gamer career, I wanted to do my bachelor degree. I surprisingly found that when I studied math, it was easier for me. I think it's because of the logic.* (Participant 22; Professional esports athlete) *Mind games (...) You have to start thinking, this is what they are going to do before they do it, react to it in real life and punish it. (...) You have to be able to read and interpret what is going to happen before it ends.* (Participant 19; Professional esports athlete). *But what differentiated the good from the great athletes was actually working memory*. (Participant 5)
Physical and mental health	Health (physical and mental) literacy as well as routines and behaviors sustaining safe performance.	- Physical health literacy (e.g., nutrition, exercise, sleep) (K) - Physical health (e.g., taking care of own fitness, preventing injuries, adhering to professionals' recommendations) (K/S) - Mental health (e.g., developing healthy coping skills or burnout management) (S) - Coping skills, stress management, and working under pressure (O/S)	*When you have been sleeping well and you have enough, like REM sleep, you can focus better and you can learn better when you are practicing. So like you are going faster to the top. So it's one thing. Also if you eat properly. If you are hungry, you can't just concentrate so much* (Participant 24; Coach) *And keep a good balance between physical health and in game training. Because playing games, once you become a pro, playing games is no fun. You have to sit (...) and play games for maybe 10 hours every day. Many players got injured, waist injury, wrist injury, leg injury.*. (Participant 3; Researcher) *It's about eating right, sleeping right, taking care of yourself. Because I think the physical main thing is it's the foundation where everything is built. If you live like shit, you feel like shit, you play like shit.* (Participant 12; Government official) *But of course, we are burning out people when they are 20 years old. Because esports is so demanding.* Participant 24; Coach) *I think you could easily just think I need to play, you know, 12, 16 hours of this game every day to stay the best. But I don't think that's overall good for your mental health. Keeping good mental health is crucial for, you know, your success.* (Participant 33, Educator) *Self -regulation, (...) Because it is a very intense industry, there are a lot of really high stress situations that they are put into, not just in-game, but out of-game. One of the things that just psychologically is stressful for people in general is travel. And what I've*

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
			noticed seems to be, unfortunately, standardized in the world within eSports that our events are all planned at the very last minute. (...) And you don't know what country you're going to be in. You don't know if it's for sure going to happen or not. (...). And that's incredibly stressful. So self -regulation in high stress situations, I think, is absolutely crucial. (Participant 13; Federation head)
Psychological factors	Motivations, traits, individual differences, and learned psychological skills that support career performance as well as overall career persistence and learning.	- Resilience (e.g., dealing with failure, difficulties, career-related problems) (S/O) - Managing emotions (e.g., not losing control during competition) (S) - Self-reflection (e.g., evaluating own performance, planning change, correcting own behaviors) (A/S) - Dedication and passion (A/O) - Focus (as in the ability to focus on the game and leave the daily hurdles behind for the duration of the game) (S/O) - Creativity (e.g., creating new strategies in-game or new game related content) (A)	*And in order to be an esports athlete, someone (...) must have great perseverance. You must be able to come back after losing.* (Participant 36; Market researcher) *You have to be patient because good results do not come in one day. You need a lot of practice, a lot of days practice, a lot of losing before you start winning.* (Participant 18; Business owner) *I mean okay the sort of emotional skills I think it was when the OG first won Dota International because they were the ones that came out with the whole, we have like an emotional coach for our team who basically teaches our team how to not tilt and how to like chill out and how to just like have fun and play.* (Participant 25; Amateur esports athlete) *You need to, you know, when I say versatility, what this means is the ability to learn something new. So you need to be able to learn new skills, learn new things to do new roles.* (Participant 48; Manager) *They need to be creative because gaming is all about creativity. It requires us to think outside the box* (Participant 35; Business owner)
Social skills	Interpersonal skills that enable collaboration, conflict management and feedback exchange in both team and individual activities.	- Teamwork (S) - Leadership (e.g., guiding the team, keeping the morale up) (S) - Communication (S) - Networking abilities (e.g., outreaching to others, making acquaintances, looking for opportunities) (S/O) - Self-presentation and public speaking (e.g. during interviews, matches, communication with fans) (S) - Negotiation (S) - Accepting criticism, being able to take feedback (S/O)	*(...) being able to work in a team and take orders, work productively and positively together with others*. (Participant 54; Legal specialist) *One of the most important qualities is leadership. It can be taught. People are born leaders, but it can be taught eventually, especially with the young people* (Participant 18; Business owner) *Communication. So like, (...) to be able to communicate properly as to what and how they want this particular game to be and maybe their own understanding of the game.* (Participant 35; Business owner) *Your ability to network and have good relationships with people is invaluable. For staying in power in any sort of industry, you have to have really strong networking skills.* (Participant 13; *Federation head*) *Judging by the professional athletes I like, you definitely develop some charisma because you have to show yourself at the tournaments. There are cameras,*

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
			you are being seen by other people, which is not exactly the case when you play in your own home or with you team (Participant 7; Amateur esports athlete)
Occupational skills	Specific occupation-related factors as well as professional literacies necessary for a sustainable career and facilitating career transitions.	- Legal literacy (e.g., understanding contracts or collective bargaining) (K) - Understanding the rules set by governing entities (K) - Marketing abilities (e.g., creating own brand, attracting sponsors) (S) - Personal financing (e.g., budgeting, investing) (K/S) - Time management (S) - Work-life balance routines (S) - Career and retirement planning (S) - Managing daily tasks (e.g., financing, cleaning, hygiene) (S) - Language abilities (K/S)	*And so I think those that have a long career really develop a very strong sense of business acumen and negotiation power.* (Participant 13; *Federation head*) *(...) legal knowledge, because in China, the esports contracts, in many cases, all the terms and conditions are not well defined. So many esports players feel that they are cheated by the esports teams. (...) they don't know how to defend themselves against potential legal risks.* (Participant 3; Researcher) *They need to learn that about contracts and, you know, making sure that the people that they're working for honor their contracts, they shouldn't be waiting six months to get paid. Um, so, you know, either understanding, understanding contracts or, you know, understanding that they need to hire an expert to look over their contracts and stuff.* (Participant 30; Journalist) *I think one area that eSports athletes tend to neglect is how to market themselves to brands, which is another facet that you need to understand how to become successful and well -rounded as an eSports athlete. That's in terms of crafting your social media, crafting your brand, which is not just about logos and stuff like that. I think it's about crafting a narrative.* (Participant 26; Professional esports athlete) *I think we also need to know when to take breaks. Because I think that we spend so many hours grinding to be among the best (...). But I think also knowing when to take a break, just for your own physical and mental health is something that I need. Just creating that nice work-life balance.* (Participant 26; Professional esports athlete) *(...) handle your personal life well. You know how to do daily chores, clean out your clothes, how to live on your own. Because as far as I know, in many esports training academies in China, a lot of kids, they cannot have their life on their own. They have to rely on some baby sisters (...) to help them deal with all the daily chores, cleaning up clothes, cooking, cleaning up their dorms. I would say the most important skill is to still learn how to do all the daily chores by yourself.* (Participant 3; Researcher) *You've got to be able to communicate in a timely manner if you speak the same language as them, which is a very nice, helpful thing. If you speak a common language between yourselves, that's generally quite helpfu*l (Participant 17, Educator)
Digital skills	Skills and knowledge associated	- Content creation (K/S) - Software knowledge (K) - Technological and	*Well, the other stuff you are learning on the way is general social media, like probably twitching, probably screenshotting some of the recordings,*

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
	with specialized use of digital technologies.	hardware knowledge (e.g., understanding how specific peripherals work, how the PC or the Internet works) (K)	*probably video editing, generally, social media management, kind of being able to speak in professional matter, like being being able to kind of become you have to become your own kind of copywriter, graphic designer, you have to become your own, so many things that you have to be very versatile and it needs to give you a rush* (Participant 31; Community manager) *A lot of people who are on these pro teams also are expected to make content. So having the skills of knowing how to, you know, either have a broadcasting presence or have a, you know, ability to kind of work with OBS or whatever it is and, you know, kind of run a stream really well or turn your gameplay into a polished kind of video.* (Participant 33, Educator)
Ethical adherence	Knowledge and conduct regarding fair play, cheating and tournament regulation.	- Esports ethos and sportsmanship (K/O) - Respectful conduct (S/O) - Fair play (e.g., avoiding cheats and performance enhancers) (S/O) - Rule adherence (K/S) - Not cheating, abusing game systems, or the competition itself (e.g., through match-fixing) (K/S)	*Respect other players and your organization.* (Participant 46; Manager) *So you have to maintain your behavior, not do match fixing.* (Participant 4; Journalist) *It's just like in these six years, you have to climb to the top of the mountain and you have to be careful about match fixing. This will end your career immediately. And you have to follow the rules from game publishers.* (Participant 4; Journalist)
Other conditions and factors	Structural and contextual constraints that shape access to competition, training, mobility and so forth; factors not fitting the remaining categories	- Infrastructure access (servers, Internet, venues) (O) - Equipment purchase/renting access (console/ PC, peripherals) (O) - Infrastructure access (servers, Internet, venues) (O) - Country development (O) - Competition access (leagues, tournaments, visas, local venues, other competitors) (O) - Specific regional differences (e.g., cultural acceptance of esports or video games, governmental acknowledgement) (O) - Support from others (especially family) (O) - Demographics (e.g., ethnicity, sex, age) (O)	*Okay so for esports athletes we do have our equipment, and right now in Kenya you can't just become an esports athlete, because no one can provide for you what you need. No one will provide for you with wi-fi, no one will give you a powerful keyboard, a mouse or a console. (...) to become an esports athlete in this country right now, you must have these equipment. So when you compare the number of people who actually have and can afford Wi -Fi and laptops consoles against the number that cannot afford, it's quite high. And remember, no one is supporting esports right now financially.* (Participant 42, Professional esports athlete) *In China, most families, most parents, and most educators do not like games. (...) if you get your support from your parents, then good luck. That's very good. And I show respect to your family members, if they support your esports career; if they do not support your esports career, then you have to learn how to survive under the grid* (Participant 3; Researcher) *It's so important who supports you. If it's just your teammates or if your family is criticizing you for all the time that you spent behind your gaming console?. I think it's so important for players to be able to talk to their parents about what they are doing and why they're doing it. And if the parents get some insight in the game that they're playing, and even start to understand why they're so fanatical sometimes, maybe shouting sometimes as well, if something goes wrong in game, that they would have a better understanding,*

Factor	Description	Sub-factors (K/S/A/O)	Example quotes
			that they would be better able to speak to each other. (Participant 15; Journalist) *I remember I used to invite a friend of mine from a neighboring country called Uganda. This guy would beat me every weekend. So he would take a bus to Nairobi which is almost 17 hours. He gets here for the whole weekend from Friday to Sunday (...) and we would stay awake and play this game. I would win, out of 100 matches, up to maybe 10. (...). I was almost getting mad but (...) I couldn't play online, so I brought online home. He used to play online a lot and I couldn't play online because I couldn't afford that infrastructure. The easiest way for me was to host somebody who plays online. I learned from them (...)* (Participant 19; Professional esports athlete)

Participants emphasised gaming-related know-how to be at the center of career competencies, given the main focus of this career. It includes understanding in-game mechanics, overall gaming knowledge, or tactical and strategic decision-making. These are supported by cognitive capacities, which facilitate knowledge consolidation into skill. Further are health literacies and behaviors as well as psychological factors, which affect both career longevity and effectiveness of performance. Of course, social skills and interpersonal competences are very important for this career: clear communication, feedback exchange, conflict management, leadership, and audience interaction. Many participants noted that in team competition it is collaboration skills that differentiate winning and losing teams. Beyond competition, participants highlighted occupational literacies, including contract and legal knowledge, time and finance management, work–life balance, career and retirement planning; and digital skills, such as content creation, broadcasting, or software and hardware knowledge. These are especially important for post-career, as they can, at least to some extent, transfer between careers. Ethical adherence (rules adherence, anti-cheat norms, sportsmanship) was framed as a norm and a factor safeguarding careers—some noted that unethical behavior, at high competition level, is what often ends careers. Finally, other conditions and factors represent what impedes or facilitates careers from a systemic and

demographic perspective. These include infrastructure, equipment access, visas and league governance, local cultural acceptance, family support, and demographics.

Not all of these factors, however, are equally important or relevant at every stage of career development. For instance, legal knowledge and marketing abilities are not essential during the initiation stage and only become useful at later stages when one is exposed to contracts of needs to promote one's activity. Conversely, technical knowledge and the ability to utilize in-game mechanics are beneficial from the beginning and become increasingly crucial as the career progresses. Additionally, different abilities hold varying degrees of importance depending on the game or type of esports. For example, spatial abilities are key in FPS games, while teamwork is essential in team-based games but less relevant in solo-game contexts. Even further, many demographic factors, such as sex, gender, ethnicity, or region of origin, influence an esports career throughout its duration, often in subtle ways, increasing or decreasing chances at success. It is important to consider that, despite the comprehensive list presented, significant differences exist regarding when certain factors are relevant and when they are not. The timing and context of these factors can vary greatly, emphasizing the need for a nuanced understanding of KSAOs in the development of an esports athlete's career.

> *I think that one of the big asterisks to this is that it varies so much from game to game. So in a game like Hearthstone a person is not dependent upon their reflexes and eye coordination. So the age of mastery can last longer.* (Participant 21, Psychologist)

> *So basically, for any young players, any youngsters who are interested or who are just starting to enter the scene, the most important thing is definitely their skill in the game. So everything involved inside the game, like from, for example, if you're talking about Counter Strike, then the first and foremost is their aim, right? (...) And also by the years, after they've been a professional player, most of the players will develop, let's say, a better skill to communicate with other people, with their teammates, with their management stuff, etc. Because that's what we are expecting them to do, basically.* (Participant 11; Manager)

4.3.4 Evaluations of the initial model

The majority of participants viewed the model presented in Figure 9 as an accurate reflection of how an esports athletic career commonly progresses (n = 40). Three primary areas of positive feedback emerged: (1) the suggested stages of the career, (2) the use of different developmental areas, and (3) the model's overall practicality for the industry. This positive feedback is discussed first, followed by stakeholder critiques.

Most participants, regardless of their backgrounds, agreed that esports athletes often progress through the stages of initiation, development, mastery, and discontinuation. However, they acknowledged that these stages represent an idealized or standard pathway, which may not fully capture the diverse experiences of individuals in the esports community. In many cases, players may never become esports athletes at all or may exit the path early, never reaching the mastery stage. Consequently, discontinuation is not strictly tied to mastery and can occur at any point, highlighting that one can leave the career at any stage. Additionally, participants mentioned the possibility of returning to an esports career post-discontinuation, underlining the need for a return/recovery stage. Such flexibility would better accommodate the non-linear and often unpredictable nature of esports, where players might pause due to burnout, personal reasons, or changes in the industry landscape.

Participants also valued the consideration of different developmental levels, especially those frequently overlooked in this industry. This was particularly noted for the psychological dimension, where psychological preparedness, stress-coping abilities, resilience, specific individual differences, and age-related psychological changes were deemed crucial for this career pathway. Other levels garnered similarly positive feedback, with participants emphasizing the need for a holistic approach to esports career development—mirroring other industries' approaches to ensuring success.

Most importantly, participants believed the model would prove useful for the esports industry. On one hand, they suggested it would enable athletes to better prepare for their future, especially through structured and directed support from coaches, psychologists, other staff members, and even parents or educators—making it a valuable educational tool. Such support structures could mitigate the uncertainties of this highly competitive field, giving players a clearer understanding of the KSAOs required at each career stage. On the other hand, participants noted that the model could help younger players assess more easily whether they possess the necessary attributes to pursue—and succeed in—an esports career. Overall, the need for this model was strongly emphasized, as it was seen as a framework for understanding esports athletic careers and pinpointing areas for intervention to better support athletes.

> *I think it's great. Even before you started describing it, I understood exactly what was meant by each level. I do think that it's pretty spot on. I wouldn't change anything. I think it's great and helpful.* (Participant 32; Educator)

> *I can't say I'd really disagree with too much. I think it's a pretty accurate estimation or generalization of the average e -esports player.* (Participant 29; Semi-professional esports athlete)

> *It depends so much where the industry is going, like how much the base support will be, will there be so much burnout, will there be (...) demand for so many players. It's pretty much about where the industry is going. But I think that's pretty good.* (Participant 24; Coach)

> *I agree with this as not only a roadmap of what's happening, but kind of just what probably will happen. It's not even what you should be striving for. It's just a chart of like, you know, here's what's going to happen.* (Participant 33; Educator)

> *Yeah, it's very useful, and I like how you've categorized it really, to have these six different levels. (...) I didn't tell you this, but I trained as a teacher. So I love when I can see especially the psychological parts and the development process. (...) When you're playing football, when you're ten, nine, eight, in initiation, we just want you to play for fun. But there's an edge you get through, we want to teach you formations, positioning. And it's also what I try to tell people when I speak to them about esports, is that sometimes you make the mistake of wanting to make everyone to be a competitive player, which is wrong. We should focus on, first of all, making as many people as possible casual players. It is from those casual players that you will find people who will develop into*

> *competitive esports players. So if you are looking to grow a game, (...) you should first focus on what you've written there as initiation. Just encourage many people to play it. And when many people play it, some of them will take an interest in development. And those who are successful in development will enter the level of mastery. And of course, mastery also has ended.* (Participant 37; Federation head)

Despite acknowledging the model, the same 40 participants offered numerous suggestions for improvement. Additionally, the remaining 14 participants either had no strong opinions or proposed major revisions. Many, if not most participants noted that the suggested timeline for career development needs significant adjustment because it does not sufficiently account for official regulations regarding professional entry. Some esports leagues set age requirements for professional competition; for instance, the premier League of Legends leagues in China (Tencent, 2023) and the EMEA region (Riot, 2024) require athletes to be at least 18, while the North American league allows players at 17 (Riot, 2023).

> *In China, if you're under age, under 18, you cannot play any esports events, even if you want to join an esports youth academy program. If you want to do youth academy training, you must be at least 16 years old, or else it's not allowed. If you want to get trained, if you want to be an athlete in a youth academy program, you have to be at least 16, not teaching, but getting trained to be the next professional.* (Participant 36; Market researcher)

> *In Finland, it also makes sense. If you want to try to be a pro player, you must choose either study or be a pro player. If you want to join the Academy project, I think you don't have any age limit. But if you want to join the company, yes, you have an age limit.* (Participant 49; Team content creator)

Similarly, some regions have their own governmental regulations on casual gaming; China is a prime example as stated multiple times. Under the National Press and Publication Administration's (NPPA) rules, Chinese teenagers under 18 may only play games from 20:00 to 21:00 on Fridays, Saturdays, Sundays, and holidays (Goh, 2021; NPPA, 2021). In Europe, Pan European Game Information (PEGI) ratings also come into play. For example, Call of Duty: Modern Warfare III—part of the Call of Duty League—holds a PEGI 18 rating, implying that under-18 gamers should only play with parental oversight or not at all.

Anyway, Germany is very strict. So Counter Strike is plus 16. I think Rainbow Six, Call of Duty are plus 18, or at least Rainbow Six is. Escape from Tarkov is plus 18 and so on and so forth. League of Legends plus 12; Fortnite is now plus 12. So you need to obviously be on that age limit already. (Participant 51, PR head)

When we look at the legal level, you're technically, especially in the UK, in guardianship until the age of 18. So if there is going to be any legal dealings, they're going to be under a guardianship program. So if your parents or your legal guardians, (...) they would be making decisions for you legally. (Participant 17, Educator)

I know that you have to be like at least 16 to sign a professional contract for the football team. And I can't believe that's different for the esports industry. (Participant 53; Consultant)

Regardless of these regulations, participants noted that game type (e.g., fighting games supporting longer careers versus FPS games) and the form of esports (esports vs. speedrunning vs. virtual sports) affect career onset, duration, and conclusion. One example is how in fighting games career may last much longer due to lesser emphasis on quick reaction time compared to other game genres, such as first person shooters or real time strategies. Similarly, different types of esports, including more traditional team or solo virtual competition, speedrunning (competing in a singleplayer game in regard to time needed to beat the game) or virtual sports (competing only partially in virtual settings and performing real-world exercise), are subject to these differences. For example, people participating in virtual sports, as claimed by one of the stakeholders specializing in this area of esports, are often older people than the typical mean age of esports athletes, due to how they aim to utilize these esports in order to enhance their own health. Whereas speedrunners tend to not have careers as athletes *per se*, due to very limited possibilities in this area. For them, a more typical career is that of an entertainer, specifically, streamer.

And that's just within the fighting game community because we have our reputation for having very long careers (...) I know people in their 40s who are still playing quite actively. I think Daigo *is playing. Tokido is still playing, Oil King is 38 and he's still playing. And Knee from South Korea. I think he's around 35, 36 and he's still playing. (Participant 26,* Professional esports athlete*)*

Second, stakeholders pointed out that the model does not sufficiently consider community and social dynamics. They emphasized that, in addition to traditional support structures like family, staff, and peers, the influence of fans and the broader community is crucial. Unlike traditional athletes, esports athletes frequently engage in community activities, such as sharing knowledge or creating new content, and maintain close contact with their fans through streaming or recreational gaming. Moreover, esports athletes, as any other public persons, often face public scrutiny, making it challenging to engage openly in their careers. This ongoing interaction with the community often exposes athletes to scrutiny (or positive opinions), which can directly affect their careers.

> *(...) and I'll add community, to be honest. And by community, I mean like when a niche esport athlete or a streamer opens up the stream, he'll get affected with what those guys are saying. They're telling him, "you're bad, you're bad", (...) he's probably going to believe that he's bad eventually. And the same thing. If (...) people are telling him, "yeah, keep going, you're doing it right", he's going to think that he's doing it right. So I'll add community, because a lot of people, they'll get affected by their community more than they get affected by their peers or families or friends.* (Participant 18; Business owner)

> *The attachment of fans to players, particularly on the mastery level, plays a huge role, because if you're hated by the people that watch the games, if everybody goes on social media and tweets, "oh, my God, I wish x, y, and z would leave the team. He's weighing everybody down." Or on the opposite side, if everybody praises you when you've come in clutch, that makes a huge difference.* (Participant 54; Legal specialist)

Third, while stakeholders acknowledged the inclusion of legal aspects in the model as critical, they felt that these are not clearly represented. They suggested that the model should explicitly address the legal implications of age regulations and the fact that athletes in the initial stages are often minors, which significantly impacts their legal rights and responsibilities. Furthermore, the model should incorporate the influence of governing bodies—federations, governments, and game developers—that may introduce or modify competition rules, exclude athletes, or otherwise shape the career's sustainability.

The last thing that I just noticed regarding the legal level, I think probably this is true for every jurisdiction globally, that it makes a huge difference legally whether you're a minor or not. (...) There's just certain legal limitations to that. So I feel like that should really be added to that diagram to make that clear. (Participant 54 Legal specialist)

I think that's also going towards a, let's say, a good direction. (...) I would say, especially for the south-east region of China, like the more developed region, Shanghai, Zhejiang, or Guangdong. Governments there are not only helping it, but they are sometimes one of the organizers of different esports events. (Participant 11; Manager)

Fourth, stakeholders described the model as idealistic, pointing out that it overlooks regional, gender, and cultural differences that determine career opportunities. It neglects discrepancies in access to equipment, infrastructure, or even the games themselves—essential elements for launching a gaming career. Consequently, the model appears somewhat Western-centric, limiting its applicability elsewhere. Participants suggested broadening the model's scope or making it a bit more general to reflect the truly global nature of esports.

I think the problem is that we don't know what they are [stages] *because no one's ever looked at it. I would hesitate to say that it's inaccurate or not sufficient just because I think that people in esports have a tendency towards esports exceptionalism, which just categorically isn't the case. And I think this might be one of those areas. Now with that, esports obviously is exceptional to a very small extent, to the same extent that everything else is exceptional. So it needs to be adapted and we don't have the empirical research to tell us how to do that. But I think it's workable. Is it a good starting point? 100%* (Participant 8; Amateur esports athlete)

Right, so in application to the African model it will need to be changed in a certain way. I mean, I would not say that it will not work in Africa. It might work in certain communities, but it won't work in every community. And also, just not every genre of community will have that kind of setup. I mean, the basic principles will apply, but it will need something more specifically in relation to the genres, because some genres are like single players, others are multiplayer communities. (Participant 10; Journalist)

Finally, the model should place greater emphasis not only on career stages but also on specific milestones and transition points necessary for progression. This may include reaching a certain age, deciding to pursue a professional career, or being scouted by a professional organization before mastering the craft. Stakeholders also stressed that most

players do not receive financial compensation during their careers, necessitating alternative means of income. This often requires players to deprioritize their education or delay it by several years to focus on their chosen game, which can further complicate their career trajectories.

> *If I can add one thing, I would add one thing. That's the moment when you decide to be a pro. (..) That's the only thing I have to add. And maybe one more is your career after retirement. Yes, I would insert that one.* (Participant 3, Researcher)

> *(...) the academic vocational level (...) Let's say we have someone who's a teen, young teenager who's very, very good. Is it just a matter of getting them tutors so that they can at least get their bare minimum high school degrees or whatever else. And then they hold off on college until after their careers are over. I do think that's part of this. I guess that's even what this shows is that basically, you know, around 25 is where you start college instead of 18 or 17. (...) I wonder how that affects your whole career trajectory, because then you would be finishing college at, let's say you finish at 28. That's a very different kind of position to be in starting a career for most jobs, I think.* (Participant 33, Educator)

4.4 Discussion

This study presents a detailed stakeholder consultation with esports industry professionals, extending the findings from the literature review. The results show that this career is experienced as both staged and volatile, where the overall outline of the career can be predicted, but it varies greatly depending on the context it is set in. The KSAOs identified by stakeholders largely overlapped with those from the literature; several unique and previously under-researched factors also emerged. Most, if not all, participants believed that an esports athletic career cannot depend solely on "in-game skill". Crucially, extra-individual forces—publishers, laws, markets, infrastructure, audiences—act as shifting gates that open or close pathways irrespective of talent.

Consistently, throughout the interviews, stakeholders recognized around four stages similar to the original ones distinguished by Wylleman and Lavallee (2004): initiation,

development, mastery, and discontinuation. In addition, they often referred to what can be described as a recovery stage, echoing suggestions made by Kim & Park (2010) and Kim & Thomas (2015). However, they rejected the notion of a fixed sequence. Entry points can be abrupt (e.g., being scouted off a ladder or casual play), development can be skipped, and mastery is better understood as a ladder within ladders (competing for main-roster slots, surviving league churn, maintaining brand and health). Exits and re-entries are common: players pause for education, finances, or burnout and return later—sometimes in a different game or role. This cyclical interpretation reconciles linear HAC staging with Chaos-style perturbations (game updates, age thresholds, visa issues, and game developer/publisher policy changes), offering a more faithful map of esports careers. The purely linear career models currently employed in esports, therefore, seem to be an unfortunate byproduct of historical regularities, which mischaracterizes the path and underestimates the role of context. The current data supports replacing linearity with a more explicitly cyclical career pathway, where stages are connected in loop(s), with milestone events—very specific career transitions—in-between, such as deciding to become an esports athlete.

The stakeholder accounts also confirmed that KSAO requirements are, to some extent, stage-sensitive. In initiation, for example, digital skills such as streaming and content creation or occupational literacies (e.g., financial planning, contract negotiation) are less important than in the mastery stage; whereas early career progression depends primarily on game and mechanics knowledge, social networking, the ability to "stand out" or simply luck. As athletes approach mastery, KSAOs outside of gaming skills and knowledge become key: psychological resilience, self-presentation, legal and financial literacy, and broader occupational competencies. However, this study does not provide enough data to specify with enough accuracy in which stages, which KSAOs are most key, as this would require an additional longitudinal exploration.

Stakeholders emphasised that these skills should be cultivated early, well before they become critical, to smooth the transitions and extend career longevity. For this, specifically, they suggested expanding esports educational infrastructure as well as strengthening bargaining bodies. In consequence, the athletes should receive more chances at gaining career and life skills. Especially the latter is an interesting issue—some of the stakeholders noticed that if young people become too focused on esports, they may not learn basic life skills, such as shopping, cooking, or even cleaning. Fortunately, at least one of the organizations of which the representative took part in the current study, implemented programs aimed at learning such basic knowledge.

Stakeholders also emphasized numerous social and contextual factors that sit outside the athlete: publisher governance (rules, game updates, policy changes), legal frameworks (age-related regulations, contract enforceability), and infrastructure and equipment access (servers, gear, connectivity). These factors produce region- and title-specific opportunities and problems. Fighting game athletes, for instance, may afford longer careers; FPS athletes experience shorter but a more intense career; some regions enjoy clear competition ladders and learning opportunities at professional institutions, while others face sporadic events, scarce servers and no scholastic interest in esports. Esports athletic careers then, just like any other career, lie on an intersection of many cultural, legal, infrastructural and other factors, which are often not considered when analysing it or when advising young people who wish to become esports athletes. In KSAO terms, these are predominantly "other characteristics"-related constraints that are not trainable and it would be best if they were somehow provisioned (scholarships, visas, safe contracts, federations, community aid) or acknowledged in selection and planning.

Interestingly, despite the literature putting strong emphasis on support structures in the path to becoming athletes, both esports (e.g., Chansaengsee, 2022; Freeman & Wohn, 2017b;

Madden & Harteveld, 2021; Salo, 2017) and traditional ones (e.g., Wylleman & Lavallee, 2004), current participants were unlikely to indicate this when unprompted. Once discussed they usually agreed that community, fans, school/university programs, unions/bargaining bodies, and family acceptance shape career opportunities; however, they placed only limited importance on these factors initially.

Taken together, the stakeholders generally found the model developed in Study 1 to be useful, but they also agreed that it requires substantial revisions. The model should move from a completely linear to a more cyclical career pathway preserving the original stages (best if following Wylleman and Lavallee's (2004) terminology as it was intuitive to understand for the stakeholders) but allowing for loops, re-entry points, and explicit milestone event/career transitions. It should also emphasize contextual factors, including governance, publisher policies, legal frameworks, educational pathways, and infrastructural conditions. Finally, it should reach outside of traditional social support structures towards the support coming from the community - showing that the support structures in the case of this career, may be somewhat different than in traditional careers or more embedded in entities outside of the closest circle of people. Interestingly, several participants—despite lacking a formal scientific background—were already familiar with some of the manuscripts included in this review (e.g., Ward & Harmon, 2019), underscoring that certain academic findings resonate strongly within the esports community and are perceived as having tangible, practical value. In practical terms, this study suggests creating a career model that diverges from or extends the classical HAC framework. It should reject age-related frameworks, relax rigid age-based timelines, specify milestone events/transitions, emphasize context, and allow for recursion.

Ultimately, the most faithful representation of esports athletic careers seems to be a cyclical, milestone-based, competency-focused, and context-dependent model. One, that

recognises both the agency of the athlete and the shifting structures that enable or constrain progression. Embedding these realities into governance, talent development, and education might make career pathways more sustainable, and resilient, ensuring that the industry can nurture talent while also safeguarding athlete welfare. In the following (sub)study, the context of the esports industry is examined more deeply to understand how elements beyond the athletes themselves affect not only their careers but also the industry itself and the wider society.

4.5 Conclusion

In conclusion, the insights gained from this stakeholder consultation do not merely validate the model proposed in Study 1 but also transform it, demonstrating that the realities of esports athletic careers are much more complex, dynamic, and context-dependent than the linear career models suggest. Likewise, this study also shows that a purely non-linear model (e.g., Meng-Lewis et al., 2022) is insufficient, given the presence of a partially structured career pathway. By explicitly incorporating the feedback of those working within the industry, this research outlines how to adapt the current model into a tool better aligned with contemporary esports ecosystems and better equipped to guide future athletes, coaches, managers, and policymakers. A consolidated model integrating these insights—cyclical structure, milestone transitions, and explicit contextual layers—will be presented in the final discussion.

5. Study 3.1 | Stakeholders' take on esports industry sustainability[6]

5.1 Introduction

As shown in the previous studies, a career cannot be considered in isolation from the context in which it is embedded. To deepen this contextual understanding, a secondary analysis of the dataset used in Study 3 was conducted, focusing on the esports industry itself and its sustainability. This perspective not only highlights the opportunities the industry presents but also reveals the systemic challenges it faces. In the language of the KSAO framework, many sustainability issues operate as "other characteristics", including contextual factors like infrastructure, governance, policy, markets, or community norms that can facilitate or inhibit career transitions.

Scientific research has repeatedly identified difficulties in sustaining both the industry and those working within it (e.g., Murray et al., 2022; Nyström et al., 2022; Peng et al., 2020). Nyström et al. (2022) highlight three central problem domains: (1) health and inclusiveness; (2) incomplete industry structure; and (3) immature business logic. The first encompasses inadequate health support for workers and unequal access and opportunities for underrepresented groups. Indeed, previous studies suggest that esports athletes face a unique blend of health risks, mirroring sedentary office workers due to prolonged sitting (Van Uffelen et al., 2010; Zwibel et al., 2019), overuse injuries comparable to those of traditional athletes (Aicale et al., 2018), and wide range of psychological issues (e.g., Lee et al., 2021; Madden & Harteveld, 2021; Meng-Lewis et al., 2020). Without systems to address these issues, talent retention and recruitment—especially among minority groups—may suffer (e.g., Cullen, 2018; Madden et al., 2021; Taylor & Stout, 2020).

[6] This chapter presents either exactly the same or modified fragments of the following paper under review: Trepanowski R., Wu L., Hamari, J. (2025). Is the esports industry sustainable? An interview study [in review]

These findings regarding professional athletic participation in esports are further supported by Hong and Wilkinson (2020; 2021), who, based on a large series of interviews, identified several areas requiring greater focus from stakeholders to make esports athlete careers more sustainable: physical and mental health support, securing stakeholder backing, addressing public criticism of esports, and establishing career development guidelines informed by experienced professionals. Improvements in these areas could strengthen professional conditions, attract more talent, and ultimately enhance the industry's long-term viability, leading to a more sustainable ecosystem.

Nyström et al.'s (2022) other two domains—incomplete industry structure and immature business logic—relate to unstable revenue models, a fragmented ecosystem, lack of professionalization, limited career prospects, and unpredictability. One of the biggest issues, it seems, is the overall treatment of those working in the industry, especially esports athletes who are often drawn by the promise of fame and success (e.g., Ward & Harmon, 2019). The industry's high competition and large talent pool foster a sense of worker replaceability, which can lead to excessive stress, career instability, and compromised job performance (Lin & Zhao, 2020; Madden & Harteveld, 2021; Sabtan et al., 2022; Trepanowski et al., 2024a, 2025c). Reports also point to unfair contracts, unstable revenues, and insufficient governance, among other issues (e.g., Freitas, 2023; Ouyang, 2023; Pissarev, 2023; Ward & Harmon, 2019). As Ouyang (2023) observes, the sector faces significant policy risks "including addiction and health, copyright ownership, data security, and age restrictions." (pp. 52). As an emerging sector, many countries still lack relevant national-level legislation to support it. Furthermore, although new stakeholders attempt to break through, most of the market share remains concentrated in the hands of a few major companies, such as Tencent (Ouyang, 2023). In a career context, these structural "other characteristics" can act as gates for milestone events and other career transitions. For instance, age thresholds can bar one from

entering the career, whereas specific legislation might make it impossible to progress to the mastery stage in some regions.

Beyond academic literature, policy documents have also drawn attention to sustainability challenges. The International Olympic Committee's *Olympic Agenda 2020+5* (IOC, 2020) outlined recommendations aiming to strengthen its credibility, economic and financial resilience, solidarity, and, most important for this work—its digitalisation and sustainable development. While promoting virtual competitions and Olympic values, the IOC also identified many issues similar to those found in esports research. For instance, it notes that, compared with traditional sports, access to resources (i.e., equipment, infrastructure, tools for personal development) can be very limited or that there are visible issues regarding "gender equality, mental and physical health, competition integrity and career transition" (IOC, 2020, pp. 22).

The Agenda also encouraged alignment with the United Nations' 2030 Sustainable Development Goals (SDGs; United Nations, 2025), particularly through partnerships with industry stakeholders to promote social participation and development. In esports, similar movements—such as the "Playing for the Planet" initiative—have recently emerged. According to the IOC, such initiatives can contribute to multiple SDGs (e.g., 3, 4, 5, 8, 10, 11, 12, 13, 16, 17). Alignment with SDGs is directly actionable via specific, likely stage-based, interventions (e.g., SDG3 health programs embedded in team routines; SDG4 education via dual-career support; SDG5/10 inclusion policies at entry/selection; SDG8 decent work/contracts at mastery.

In consequence, three years after IOC introduced this Agenda, the Olympic Esports brand, and later the Olympic Esports Series were established (IOC, 2023). This culminated in the announcement of Olympic Esports Games during the 2024 Paris Games (IOC, 2024).

Additionally, the IOC began collaborating with academic organizations to prepare new toolkits and resources for esports athletes, supporting their physical and mental well-being as well as enhancing their performance (e.g., Hong & Wilkinson, 2020; Hong & Wilkinson, 2021).

Despite these developments, knowledge about sustainability in the esports industry remains scarce and often context-specific. While some issues identified by Nyström et al. (2022) and Ouyang (2023) may apply globally, regional and genre-specific factors likely play a critical role. As previously reported, significant variation exists in esports career pathways across world regions and game types/genres. To address these gaps, this study re-analysed the Study 3 sample to examine contemporary challenges in esports sustainability and the overall career context. Specifically, it focuses on a set of questions not considered in the previous study. This approach enabled to capture both region-specific and cross-cutting issues, generating a holistic understanding of the industry's dynamics. By engaging directly with experienced stakeholders, the current aim was to identify practical strategies for improving sustainability—emphasizing economic stability, worker rights, and equitable treatment, as well as understanding how these affect the careers of people within the industry. As esports continues to expand, insights from this research can inform policies and practices that foster a thriving, sustainable, and inclusive ecosystem for all participants. Finally, these results will provide deeper context for the findings described in the three previously presented studies, allowing for a more in-depth understanding of the esports athletic career path. As the methodology and sample did not deviate from those reported in Study 3, their specifications and characteristics will not be described in this section to avoid redundancy; only results unique to this analysis are reported further (see Section 4.2 for Materials and Methods, if needed).

5.2 Sustainability of the esports industry

Following thematic analysis (e.g., Nowell et al., 2017; Tong et al., 2007), two independent coders generated themes reflecting the industry areas participants were most concerned about. The categories used no pre-established frameworks and any conflicts between the raters were resolved by the principal author. Seven themes or areas of interest emerged: (1) governance, (2) knowledge access and creation, (3) business model, (4) careers, (5) recognition, (6) equality and inclusivity, and (7) social responsibility. Each theme is characterized in the following sections together with specific subthemes, which include both identified issues and suggested solutions supported by the participants' quotes. The themes are structured as presented in Table 10.

Table 10

Themes identified in the study

Number	Theme / Subtheme
1	Governance
1.1	Industry legitimization, regularization, and codification
1.2	Governing entities and structures
1.3	Integrity of the industry
2	Knowledge access and creation
2.1	Data access and creation of research and knowledge
3	Business model
3.1	Financing streams instability
3.2	Game developers' superpower
3.3	Superstar market
3.4	Community engagement
4	Careers
4.1	Professional education
4.2	Talent acquisition and retention

4.3	Career development and career path structurization
4.4	Work conditions
5	Recognition
5.1	Public awareness and mainstream integration
6	Equality and inclusivity
6.1	Regional disparities
6.2	Treatment of minorities
6.3	Access to infrastructure
7	Social responsibility
7.1	Impact on the Planet

5.2.1 Theme 1: Governance

5.2.1.1 T1.1 Industry legitimization, regularization, and codification. The esports industry, unlike traditional sports industries, lacks a unified set of regulations and standardized guidelines. This is evident in the varying rulesets for individual games and genres, as well as the lack of clarity surrounding anti-doping and anti-cheating measures. Participants highlighted that these issues could hinder the inclusion of esports in prestigious global sports events, like the Olympics, as well as its worldwide recognition as a legitimate sport. The complexity of the situation is further compounded by intellectual property concerns, game instability due to frequent updates, and other factors. Including esports in the Olympics would necessitate at least a semi-stable ruleset, which some fear could simplify and reduce the depth of competition, as seen in other sports like judo. Beyond the Olympics, there is a pressing need for globally unified guidelines and rules to govern various aspects of the industry, including player contracts, competition formats, and intellectual property rights. This standardization would not only increase industry sustainability but also improve the working conditions for those involved. A structured approach could help address issues like toxic behavior, gender discrimination, and the lack of clarity concerning career pathways

within the industry, ultimately leading to a more professional and inclusive esports environment.

> *If you want to become an Olympic sport, you need to follow the standards of the Olympic Committee. And there is no way esport can become an Olympic sport as long as the publishers are the ones with the sole power.* (Participant 18; Business owner)

> *I do think the esports industry needs a lot of changes, especially in terms of regulations, because I still feel that we are using a lot of legal policies that might not necessarily work for [these] particular circumstances. (...) within the African continent, we do need regulations and policies that actually speak to our current circumstances. And I do believe that the longevity of how policies should operate, it should also be able to somewhat foresee the future and be flexible to any changes that may come, because in this era of technology there's so many rapid changes that it's kind of hard to keep track of. (...) So we can't have laws that speak to all of us, but we need to have common sense regulations that can then inform our policy makers on the types of laws that can fit our particular circumstances. So that's something that needs to be addressed at our publisher and maybe federation level.* (Participant 27; Coach)

> *We need to have a proper unified system, like I said, for the decision making process across the world. There needs to be a proper body to understand rules and regulations for even doping, (...) gambling, (...) match fixing. I mean there needs to be a proper constitution of rules and regulations related to gaming when it comes under a certain body (...). There needs to be a proper transfer system of players, legal contracts (...).* (Participant35; Business owner)

> *And then you can get into the minutiae of stuff that should also be changed, like (...) regulations on what is allowed in tournaments, because it's completely unclear. For example, on performance enhancing, like what things you can put in your body. Basically, what is allowed and what isn't. And there are regulations for that in traditional sports. There have to be, and there's been initiatives to recognize those for esports, but nobody can ever agree on anything, and that's a huge issue as well.* (Participant 54: Legal specialist)

5.2.1.2 T1.2 Governing entities and structures. The esports industry currently has two main governing bodies, the Global Esports Federation (GEF) and the International Esports Federation (IESF). According to the participants, these bodies have distinct spheres of influence leading to significant decentralization of power in the industry. For instance, there were reports of countries having two distinct national governing bodies, each of which

affiliated under a different global governing body. Such decentralization complicates coordination across competitions and legitimacy initiatives, and may also impede the formation of effective collective-bargaining bodies.

> We have the IESF and we have the GEF, the global esports Federation. I think we need one combined esports federation (...). (Participant 18; Business owner)

> We need one international Federation and then you need national federations to provide a framework of the practice of the sport. (...) And we need these federations so that they can be factors that can be used to pull together the resources in esports to create a more sustainable esports ecosystem around the world. Also, what a federation, international federation, and national federation will help is to grow the prominence of esports around the world. (Participant 37; Federation head)

5.2.1.3 T1.3 Integrity of the industry. The integrity of the esports industry is a significant concern, with issues ranging from ethical conduct and lack of transparency to abuses of power by developers and federations. The lack of transparency mostly relates to limited public access to some, rather basic, industry information. This includes game usage and viewership data—useful for planning events—as well as contract information. Athlete contracts are rarely public and, according to participants, often contain ambiguous clauses that limit collective action. Similarly, power abuse in the esports industry is not something uncommon. Participants reported cases in which federations blocked grassroots competitions from being conducted or penalised people not in agreement with them, virtually stopping those people from industry engagement in a given scene. Similar concerns game developers, who can easily remove any person from a competition in their game or assert IP needed. Besides that, there are also growing concerns about gambling, match-fixing, doping, cheating, and cooperation with morally ambiguous sponsors, which threaten the credibility of esports. Participants proposed in-federation integrity units to address these risks and called for stronger, proactive enforcement. The most often suggested solution was simply to increase overall transparency and communication between different stakeholders.

You know, when I look at some of the decisions they (British Esports Federation) made as a nonprofit, I have huge questions over the, you know, level of corruption. Because I think that's the only way I could describe it. There's no integrity, in my opinion. And I think that's the problem. (Participant 17, Educator)

I can't talk about other countries outside Africa, but we have a very big problem in Africa, and it's something that even I myself am facing. Allow me to diverge a bit. The problem I'm facing right now in the country is there is a new federation. And the federation has all the government support, right? But I have been doing this for more than eleven years. I have never had any support whatsoever of any form. And now that this has come in, the first thing it has decided to do is to make sure they take everything I have built, put in the system, and to exclude me from the system. (...) So you find it in a lot of these African federations. It's either the players that are close to the organization who benefit, or are family members of the organization. So you find that the larger majority of the players who have no connection to the federation, to the government, or somebody powerful, they struggle to get opportunities. (...) So, again, most of these federations are also run by people who don't play esports, don't partake in video games. They just take the position because they have a connection to somebody in the government. (...) They don't know what they are doing, and they are mad because they also don't want to take advice from somebody who has been doing this for the longest time and would make their work easy. (Participant 19; Professional esports athlete)

5.2.2 Theme 2: Knowledge access and creation

5.2.2.1 T2.1 Data access and creation of research and knowledge. The participants noted that much of the data regarding the esports industry is kept private or hidden. Little is known about the specific number of players or their engagements with gaming platforms and specific titles. Especially important, according to participants, is the data on viewership, lack of which may deter potential investors. Similar issues concern contracts and work-related practices. This data gatekeeping should not surprise, as having access to such knowledge may give an edge over the competition among other industry stakeholders. This opacity may lead to uninformed decisions and hinder the growth and regulation of the industry.

We don't have much data. For example, you don't know the actual viewership from China. If you're watching a tournament, you don't know the actual [number of] viewers from a tournament, but you know that China has a population of 1.5 billion. How many people actually watch esports competitions? We have no ideas. If you watch

NBA, then by using NBA data you can identify if a player is good. But in esports, we only have KDA. That's it. It's hard to quantify. (...) People have to share their data, from individuals, to organizations, to game publishers. Game publishers own that data and some data companies have it. They probably use this data for betting, give it to betting websites or any other. (Participant 4; Journalist)

Beyond data access, the participants believed that higher education bodies should focus more on researching esports and advancing its understanding. Such research should focus on practicalities rather than theoretical debates, contributing to addressing issues such as financial instability and lack of career sustainability. This could be done by creating research-driven career development plans for secondary and higher education levels that go beyond teaching the game itself, toward many skills and abilities transferable to other careers (e.g., financial management, health knowledge, legal knowledge). This research could also drive policies for the regulatory and governing bodies, by showing what course of action would be most optimal for increasing overall sustainability of the industry.

I think the esports industry needs more students or researchers doing research in an academic way. I do think universities, colleges need to focus on esports. And I think universities need to start hiring different people from the industry, just teaching people, students what the esports industry actually is. (Participant 4; Journalist)

It's obviously the academic change we needed at the core level. People need to understand what esports is. I mean there are sports management books written by very famous authors. Similarly, I think the people who have experienced this industry pretty well need to write down their experiences and write, you know, like properly authored books on esports management as well. How you manage, how different opportunities are there. (Participant 35; Business owner)

5.2.3 Theme 3: Business model

5.2.3.1 T3.1 Financing streams instability. The esports industry faces significant challenges with financing. Three main revenue streams identified by participants were sponsorships, venture capital, and game developer's budgets; with the two former being mentioned the most often. This creates a precarious situation, as these funding sources can be

highly volatile and are not guaranteed long-term. While venture capital is beneficial for early growth, withdrawal can leave organizations exposed. Sponsorships present similar risks. Game developers' and publishers' esports budgets are, unsurprisingly, tied to marketing objectives.. While in itself this is not an issue, when a game loses popularity, this support ceases to be. As such, the industry lacks diversified revenue streams, which may contribute to a lack of long-term sustainability. Among possible solutions suggested by the participants were new revenue sources, such as pay-per-view events, increasing merchandise sales, and subscription-based services, especially for tournament broadcasting.

> *Essentially there are two big funding sources in esports that I would like to see engineered out of esports. One is venture capital. Venture capital encourages very opulent spending for a very short period of time and rarely sees a reward. It's kind of like burning bright and then burning out. The other source of funding that I would like to see reduced in eSports is developer marketing budget. Because again, that depends, that means that your esports is dependent on the ongoing support of the developer.* (Participant 2; Tournament organizer)

> *The sponsorship model in eSports is 90% of the revenue for entire organizations, for the entire industry. When that gets disrupted or when that is not used appropriately, which I don't think is to its best degree at the moment. That's when you see the massive disparity between players in the world, those at the very top and [between] some countries that don't get any participation because they're in regions where there is none of that, there is no money. And that's because it's not attractive to sponsors, especially in the oceanic region.* (Participant 17, Educator)

> *If you look at the recent developments in the sports industry, you can clearly see that some bubbles are bursting at the moment. If you look at North America and all the teams disbanding, and all the people that are getting laid off; also in Europe every now and then. I think that the industry was funded by too much venture capital. They just did their thing and were never really profitable.(...) Most of the venture capitals are currently very subtle when it comes to their investments. I think the only big money spender currently is Saudi Arabia. But that's also just like a timely investment. So that money will eventually run out if it hasn't run out yet.* (Participant 51, PR head)

5.2.3.2 T3.2 Game developers' superpower. Not surprisingly, the esports industry is controlled by game developers, who can easily change its landscape. This control is primarily exercised through their authority over the intellectual properties of games, allowing them to set rules, manage professional leagues, and even shut down games, which can abruptly end careers and disrupt the market. Participants note that such monopolistic control hinders organic growth of the industry and the competitive ecosystem while only entrenching its dependence on the developers. While there is no clear measure to deal with this issue, some suggested partial remedies included strengthening the power of governing bodies, creation of collective bargaining bodies, and standardizing regulations to mitigate concentrated control. A different approach, albeit unlikely, suggested by the participants was to create games that would be completely released into the public domain.

> *(...) in the NBA, you can criticize the presidents of the NBA or each player's team. But in China, but in esports, you can't. If you're criticizing Riot Games, you'll be banned for forever, right? That's the issue. I think it's much different from traditional sports. I mean, maybe that's a special case because Riot Games is owned by a Chinese company, Tencent. For example, you can criticize Valve, right? Valve doesn't care about you. You can have free speech about Valve. That's good.* (Participant 4, Journalist)

> *We've seen it, where a particular developer is friendly with a particular organizer, and so they create rules for that individual organizer, but they restrict other organizers from hosting competitions. (...). I'm not saying that it's even possible to step away from the format that it is right now, but if you want to identify an issue, it's that the developers are in control of the professional leagues (...)* (Participant 29; Semi-professional esports athlete)

> *I do think developers should be a little bit more open with how their games are used and kind of stop putting up all these roadblocks, because ultimately, if more people play your game, the more successful it's going to be. So I do think that just kind of allowing more access to certain game titles will make them a lot more popular and ensure that they have more longevity.*(Participant 33; Educator)

> *And where does all this money go? It goes to the publishers that own the games because they can set every single rule, because they can always say: "we're not allowing you the right of use to this game anymore; we have all of the copyrights, all of the intellectual property; if you don't do this exactly the way we want to, then we're just not going to allow you to play the game", and then that's it. So that, for me, is like the biggest issue by far, because*

you're stifling the ecosystem.(...) like, the largest part of innovation and allowing different pathways to profitability by exploring different business models is just being inhibited so much by the way that the rights are currently distributed. (Participant 54; Legal specialist)

5.2.3.3 T3.3 Superstar market. The esports industry is often described as a "superstar market" (Ward & Harmon, 2019), in which only a small number of elite players and teams are able to sustain themselves. This is concerning given that the number of prospective athletes vastly exceeds those who ultimately earn a living. This problem, however, concerns mostly aspiring esports athletes. Regarding other career pathways, the participants did not note a similar issue. What is more, they noted a lack of qualified staff in many other occupations centered around esports. Among possible solutions suggested by the participants were restructuring competition to strengthen grassroots tiers (as in many traditional sports), attracting additional funding, enhancing industry visibility, and creating athlete support structures to improve progression odds.

And so name me one single driver from Formula Two, which is just slightly below Formula One. I guess you know no one. So that is basically esports. Either you are in the super elite circle or you are nobody, which is like in a player's careers. (Participant 9; Journalist)

At the moment, a tier two team doesn't have the finances to prepare properly for tier one. So there's a huge culture shock between tier two and tier one, which I think is one of the reasons that people get so depressed. (Participant 4; Caster)

From my perspective, esports is also a superstar market. So there's a lot of people entering this career, but only few of them could become the superstar (Participant 3; Researcher)

5.2.3.4 T3.4 Community engagement. The esports industry comprises multiple stakeholders, among which, according to participants, the most critical are the community and the fans. However important game developers, federations, and such be, the community drives the competition. They foster competition, attend events, and provide developers with a steady source of income. Often they fund tournaments or provide educational materials for

the players. The content created by the community in many cases upgrades the games, as they are able to identify and report issues or create specific metas and strategies. Their work is also often incorporated into the games themselves, especially if one looks at titles such as Team Fortress 2 or Counter Strike 2 where player-created items are included, or League of Legends, Deadlock, and DOTA2 where commonly used gameplay guides are made available in-game. Participants also noted frequent neglect of community interests—or direct appropriation of community creations under the guise of IP enforcement—though practices vary widely by title, publisher, and region.

> *Globally, esports needs to be more grassroots, more in touch with the player. (...) But then in making it the coolest thing there is, the distance between those who can attend and those who can't attend becomes larger. So for example, the global games in Riyadh becomes this whole huge thing. But then simple common players in the grassroots in different African regions can't attend because of visas and everything else. So globally, eSports needs to be more in touch with the player.* (Participant 28; Consultant)

> *In order for us to grow, either the publisher needs to do more in terms of events, or they need to loosen their rules a bit for others to host tournaments. I mean, Nintendo recently screwed over all the community events. So how do you kill an esports title? You do it that way, (...) one day you have cool community events where thousands and thousands of people go to (...) and then the company says, you cannot do this because we're the rights holders, you're playing our game, you cannot do this.* (Participant 47; Educator)

5.2.4 Theme 4: Careers

5.2.4.1 T4.1 Professional education. As already mentioned, enhancing career sustainability requires both educated and experienced personnel ready to pass down their knowledge and the extensive educational structures allowing people to acquire this knowledge. This education, however, should not be limited to professional expertise. Many participants noticed that, especially in the case of esports athletes, another type of education is needed. Let's call it “life education”. According to them, it is common that young players lack many basic life skills, such as grooming themselves, washing their clothes, making food,

and so on. One participant even noted that such young players also lack basic interpersonal skills and are unable to hold a conversation and interact well with others. It should not surprise, as players often start their careers at a very young age, spend most of their time practicing, and thus have fewer opportunities to develop such abilities. A few educational facilities, especially in Europe, already address this issue by including life and social relations focused lessons for prospective esports athletes. This issue concerns other industry professionals to a rather limited extent, but in their case, a lack of practical education or real-life use of their knowledge is reported quite often. Thus, even while esports education is widely present, there is a call for enhancing its utility in actual work scenarios.

> *(...) The first thing to be improved is that esports players need to be educated in many aspects. For example, how to manage their money, (...) how to develop their personality outside. (...) And their personal image. For example, many of the esports players in China (...) they don't even know about sanitation. (...) If your personal image looks very shabby (...), people do not see you as a very energetic person. It's like your aura is polluted. You know, when they do not wash their hair, and they do not care about hygiene, they do notice that and they will belittle themselves, but won't change it. (*Participant 14; Journalist)

> *There should be a consulting service to help esports players find jobs, to make their personal* development plan after retirement. (Participant 23, Coach)

> *The whole esports industry must pay more attention to the personal development, the education of esports athletes. Many esports athletes were being used as a tool to earn money. So many stakeholders earn big money from esports athletes, but they never pay enough attention to them. So they never help them to make personal development plans. They never pay attention to their maybe source of mental condition. Nobody is educating them. Nobody is helping them to do some education programs*. (Participant 36; Market researcher)

> *I would introduce a curriculum that trains athletes, trains referees, trains anyone who gets into this scene to just instill the values we're talking about, professional, and so on. So the biggest link we are missing here is a curriculum that helps athletes become better athletes, helps referees become better referees.* (Participant 38, Professional esports athlete)

6.2.4.2 T4.2 Talent acquisition and retention. Due to the industry's many issues, it is plagued by low talent retention. An esports athlete who has finished their professional competitive career becomes disposable and often has no abilities and work prospects for further engagements in this industry, despite usually having considerable knowledge and expertise which could be utilized in many areas of this industry. For example in coaching or analytics. However, for this they would need additional training to undertake such professions well. As the participants have mentioned, some of the bigger esports stakeholders, especially game developers and teams, have begun equipping athletes not only with skills necessary for the gaming, but also different life and professional skills useful at later stages of career development. Similar focus on a broad skill set is present at educational facilities with esports programs.

From a different perspective, the participants reported a lack of adequate promotion of the esports industry among professionals from other fields, resulting in low talent acquisition. And if such acquisition does occur, it often focuses only on professional expertise, omitting the necessity for at least some basic knowledge not only of the industry, but of video games. As such, these professionals, despite their good intentions, might have a negative influence on the industry, whether that concerns policy or content creation, coaching, legal advice and so on. Therefore, on one hand, it could prove worthwhile to adjust recruitment criteria to better sift through talent, and on the other, participants suggested the industry would benefit from stronger cooperation with universities and occupational schools in creating gaming-centered subprograms in a wider area of fields, including for instance, law, psychology, or physiotherapy, and not computer science or ludology only.

> *Along the way we will lose a whole lot of good people, unfortunately. Thay will be burnt out and that will have early career terminations.* (Participant 21, Psychologist)

(...) what the industry needs more of is probably people who are knowledgeable about gaming but also made careers in other things. To explain, if you have somebody who is a great manager or, let's say, a marketing director in the NBA and he has been working for say Detroit Pistons and then moved to Celtics and then moved to Lakers And then after he spent like six years there, he decides to go to esports. He does not know the ins and outs of esports and the nuances of esports. He does know a whole lot about marketing which is great for him. But he's going to probably struggle with the strangeness and the nuances of esports, especially because he's an expert who has some years behind him and stuff like that. If you have somebody who has been playing games the entire time, who knows who follows the gaming world, and who at the same time is a director of finances for, I don't know, the Brooklyn Nets. If he's to join esports he would know exactly what needs to be done. And that's what I feel we need more of, we need people who are good, who have careers outside of esports but have an interest in esports. (...) So I would not hire a person just because they are a good psychologist. It would be good to have a good psychologist of course, but if that good psychologist has an experience in both football and esports then he'll be like a great person to have t o do your esports work. (...) So you need to be in esports first, but you need to have knowledge about the real world, which is, which is bad. (...) You need to have some real world experience (...). To get a job in this industry you need to have much more knowledge besides just loving games. Loving games is like 5%, 95% is like real world skills, but nobody cares about real world skills because games are so cool. (Participant 44 - Marketeer)

5.2.4.3 T4.3 Career development and career path structurization. One of the key issues present within the esports industry, is the lack of adequate career path structuring and support in career development. This means that people who decide to join the workforce in this industry, are often not sure as to what to expect and how their careers will proceed. To the biggest extent this concerns esports athletes, streamers, and people in other "new" careers that are not yet developed well enough. In such cases, careers are often unstable, unpredictable or even chaotic, leading to many early terminations or an inability to proceed further. To a lesser extent this concerns careers that are embedded within traditional career pathways, like of a coach, investor, programmer, psychologist. Such careers are often more predictable and, within reason, people can plan their careers. Thus, the participants called for career development research, programs, and support. They suggested, both academics and other stakeholders should research and plan out how those "new" careers proceed and what is

the expected path, if one exists. Then, such research should be utilized at career preparation across university programs, career consulting in schools or early on after joining the esports workforce. It should be made freely available and promoted throughout the industry.

> *In soccer, [local league name] it's a little kids league, where maybe like four to six year olds are playing, and after that they're moving to the next stage which is like an older or a better level team, and after that there are like tier teams. They're moving up, with the highest tier being maybe the national team in the game or in the sport that they're doing. That kind of a path is lacking or the esports industry is lacking that kind of a path.* (Participant 1, Tournament organizer)

> *There's no structure. If you look at somebody who wants to be an esports pro-player, there's no pathway for them. (...) I think predictability in a larger sense is the thing that we need globally. And if you have predictability, then you can start building some kind of structures.* (Participant 12; Government official)

> *Esports athletes should have a proper roadmap like any other sport has.(...) publishers need to step up and strategize more thoroughly. And since everyone knows every region is different, the strategy has to be different initially. Later on you can centralize this, but initially you need to first create this ecosystem across the globe.* (Participant 34; Journalist)

5.2.4.4 T4.4 Work conditions. Regardless of place of employment, work status and conditions in the esports industry are reported to be subpar. Leaving aside the absence of career development plans, issues regarding career instability were reported most often, especially in the context of the so-called “esports winter”. Due to, reportedly, diminishing financing layoffs became more common and people started worrying more about how their careers will proceed or how they will earn money. Not only because of this, but also as a consequence of the overall stressful work environment people reported strong mental and physical health issues, which are most often not taken care of. That is, participants reported that there is no adequate health support for the industry workers. Further, crunches, toxicity, harmful contracts, and other such problems are widely present. As previously suggested, one of the solutions to subpar work conditions is the creation of collective bargaining bodies. A

different solution is equipping industry workers with knowledge and tools necessary to deal with stress, to recognise early health issues or to have better career management.

> *Focus more on the mental health of the players. In South Korea, maybe start with building more hospitals and more clinics with psychological help because it's a very difficult topic for South Korea and it ultimately leads to overworking of all the workers, not only the athletes* (Participant 7; Amateur esports athlete)

> *One is psychological training. So, for example, there should be a psychologist or maybe a psychiatrist to train esports players to help relax before the match, to control their emotions, to survive the pressure. Esports teams should offer some infrastructure or maybe facilities, for example, for doing sport,because doing sports is also beneficial for playing games. Esports teams should have a timetable to train esports players both physically and also in front of the screen.* (Participant 22; Professional esports athlete)

> *(....) at least like in Counter Strike, the working conditions are not good enough. Because there's so much traveling, because there's too many tournament organizers. And that's a fact. You can see how many pro players are complaining about it. Tournament organizers are not very good at talking to each other, because of all their competitors. And so I myself have been at a tournament several times actually, where we just played the tournament, like the final is done, one team gets handed a trophy, and then you just run to the shuttle bus, go to the airport, and fly from the US to Europe. And the next day you have a media day in Sweden. That's not good for anyone. So that's just, for me, a very important thing, like giving them the best working conditions.* (Participant 54; Legal specialist)

The participants call for the appointment of collective bargaining bodies that could help lobbying for the improvement of work conditions of the people working in the industry, especially esports athletes. The main obstacle in creating such bodies seems to lie, besides power decentralization, in the fragmentation of the market by different games and developers as well as antitrust laws. In the case of esports athletes it is the high turnover and short career length, limiting people's engagement in such bodies. Participants indicated that due to this, despite numerous attempts to create such unions, most, if not all, were unsuccessful. No specific solutions to this problem were suggested, but the participants believed that collective bargaining bodies will naturally come with further development and stabilization of the industry. As for power decentralization, participants suggested creating a unified body

globally and single governing bodies at the national level, similarly to traditional sports industries. For example, like how it is in football.

> *From a player perspective, I think that there needs to be some regulation around protections for players and player contracts. We've talked about the potential of some sort of unionization, I think, would be a very logical next step and will help the industry overall in terms of credibility, in terms of sustainability, all of that* (Participant 13; Federation head)

> *I think that players should unionize in some kind of way to collectively bargain for their salaries and for cuts of tournament wins, and things like that. Let's be honest, if you're an 18 year old, you don't really have those negotiating skills and you might not even be thinking like that (...) It goes back to that idea of there's a short window [for career] and there's a reason the NFL has a players union, or any other sport before the 1960s. Those people who are playing it and making a lot of money for the owners didn't actually get paid that much. And a lot of them even had other jobs. So it wasn't until these unions came about that it gave them the ability to actually, you know, earn money. I do think that's something that would be very difficult to establish, but also would be of huge help to those players. And I think it would just make things cleaner in the same way that in traditional sports, having a players union has made different negotiations a lot easier, honestly, because instead of negotiating with every single person, you have the union that you're dealing with.* (Participant 32; Educator)

5.2.5 Theme 5: Recognition

5.2.5.1 T5.1 Public awareness and mainstream integration. Esports do not operate in the public domain to the same extent as traditional sports. Despite its popularity, according to many participants esports is not that well known in wider society. Many people do not understand esports, the ideas behind it, and do not perceive it as a sport. Consequently, any esports-related work and business is often not considered legitimate. Parents do not always respect their children's wishes to join the esports industry workforce. Some governing bodies do not provide support, monetary or otherwise, to esports institutions, limiting the development of this industry. Thus, the participants call for action in spreading esports-related knowledge across society. Among the suggested solutions were increasing its presence on public television by, for instance, transmitting esports competitions with

commentary adjusted for those not understanding this sport. They also suggested promoting esports at educational facilities, especially with events aimed at parents, to increase their esports awareness. As previously suggested, however, such increase in awareness is expected to occur naturally as a consequence of generation change.

> *Esports needs to be taken worldwide as an actual sport and as an actual career. (...) That's not something that you can really do much about other than try to keep up positive communications about it and influencing perspectives.* (Participant 25; Amateur esports athlete)

> *(...) talk to these people who do not understand gaming or esports as a culture or as a healthy way of living and telling them the pros and cons, what usually happens, how this is an opportunity for a lot of young girls and guys, out there, and also at the same time how this can be a serious career opportunity. (...)* (Participant 35; Business owner)

> *I think that also esports should be shown on traditional [media]. TV and cable is obviously dying, but if it were on more mainstream networks or streaming platforms, it would really help it grow.* (Participant 33, Educator)

> *Many families would support their kids to become a teacher, a lawyer or a doctor, but they are still hesitating whether to support their kids to become an esports athlete, because esports is not being honored and perceived positively enough across the whole world, not just in China. [We need] to get more people to understand esports.* (Participant 36; Market researcher)

5.2.6 Theme 6: Equality and inclusivity

5.2.6.1 T6.1 Regional disparities. What was mentioned many times throughout the interviews were strong regional disparities in access to esports competition, development of the industry, functioning of the federations, access to infrastructure or the overall sustainability of esports-related careers. In some regions, especially in Africa and parts of Asia, there is a severe lack of resources, proper infrastructure, and government recognition. This creates significant barriers for aspiring esports athletes and professionals in these areas. Additionally, visa issues, legal issues, and severe lack of integrity in governing bodies further complicate participation in international tournaments, limiting opportunities for growth and

exposure. Taking African countries for example, participants reported that their countries are often neglected in the global esports scene, despite having well developed competitions, federations, many professional teams, and strong local communities. Often, outside of Africa, the esports community does not realize the extent of African esports. What separates these scenes from the rest of the world, are usually the inability to compete with non-African countries, as players there often utilize older generation games and hardware, for instance instead of PS5, PS3 or PS4 is mostly used. Of course, this depends on the country. African participants noted that many Arab and North African countries compete at the same level as Western Countries and the issues mentioned mostly concern Central Africa. Although importantly, despite the high level of competition, they are still often omitted from the international stage. Thus, even ignoring infrastructure inequality, what is needed is the acknowledgement of African esports at an international level, which would be a first step toward inclusion in global competition.

> *Why is it that Africa doesn't have fair access to the games? Why do we have to register all our accounts in Europe, America, or Asia? (...) There's no access to an African account. The excuse has been that you don't have ways to take payment, but tech across Africa is great. And people are buying off Amazon and other places. So access shouldn't be an excuse. (...) I mean up until this day, (...) if you check any world event or major esports events, there's no specific African team.* (Participant 10; Journalist)

> *We need to understand who the esports athlete is from the region they are from. You need [to consider] the kind of challenges that they have to be in that specific community, because what I see is the assumption that all over the world, esports athletes are facing the same type of problems. While we have seen China, their problem is they can't take a bath. The difference between them and me here is that I can't take a bath because we don't have water. So you need to understand the specific problems for the athletes around the world.* (Participant 19; Professional esports athlete)

> *Since everyone knows every region is different, the strategy has to be different initially. Later on you can centralize this, but initially you need to first create this ecosystem across the globe. I mean, it's basically investing in this community first. If you go in detail, if the publisher comes up to, for example, my region [India], and he says that I will provide a sufficient platform for the eSports, aspiring eSports players to at least make some money. Then as an*

eSports player, I would not worry about my career because the publisher is here to provide for the best. Then I will only focus on my skills. So that is what they need to do. First provide a place where eSports athletes should focus only on his skills, not on his survivability. (Participant 34; Journalist)

5.2.6.2 T6.2 Treatment of minorities. Key issues regarding equality and inclusivity in the esports industry concern how minorities are treated. In this case, this study understands minorities as groups under-represented or marginalized within the industry. According to the participants these include women, black people, disabled people, people from specific regions of the world or countries, people outside the binary understanding of gender, and older adults. The main issue the participants pointed to was the pervasive toxicity and discrimination these groups face. Female athletes and streamers often experience harassment and are not treated with the same respect as their male counterparts. Black and disabled individuals face systemic barriers and lack of representation within the industry. In many cases members of these groups have limited opportunities, be it in tournament participation or finding work in the industry. This, however, is becoming a less severe issue due to many initiatives and policies undertaken by both the community and other stakeholders, especially the employers. The deeper, more pervasive problem is the prejudiced view against many members of these groups, which, as one of the participants noted, becomes as of lately more complex, due to a reversion of this issue resulting in a prejudiced, negative view of the majority in the community, namely men.

I think that the female athletes are getting too much crap from the viewers and from the community itself. But gaming in general is pretty toxic at the moment (Participant 1, Tournament organizer)

So one of the issues I've seen is that, like for example, in the Tekken World Tour, some of the players couldn't participate. Some of the really good [African] players couldn't participate in master's events because of visa issues. We have issues with visas, passports, all that stuff. (Participant 28 - Consultant)

I feel like women are at a disadvantage when it comes to this space for obvious reasons. (...) So if we create separate tournaments for men and women, it may lead to a belief that women need a specific tournament only for

themselves, because they are, I don't know, cognitively weaker, which is not true, right? So this other separate sort of women's space is not because they are cognitively weaker, but because they need some courage. It's not because they are less skilled, but because they are stereotyped in a way that might not make them equally as competitive as the male counterparts. (Participant 38, Professional esports athlete)

We definitely need more women. We need to figure out a pathway that makes it comfortable and reasonable and fun for women to be more engaged and participate in attorneys and the whole ecosystem and on every level. We need more people of color. We need more people from different socioeconomic backgrounds, from different countries. (Participant 51; PR head)

5.2.6.3 T6.3 Access to infrastructure. Access to infrastructure does not only concern underdeveloped regions of the world, as it can also be analyzed from the perspective of an individual. Many aspiring esports athletes in developed countries struggle with access to necessary gaming equipment and venues. This lack of infrastructure at the grassroots level prevents many talented individuals from pursuing careers in esports. Moreover, the industry's over-reliance on online platforms means that individuals without high-speed internet or gaming setups are at a significant disadvantage. To address these issues, there needs to be an increase in local gaming venues and clubs where people can play and compete. Access to free or affordable gaming without the necessity to own equipment was proposed as one of the solutions that would be easiest to implement in most regions of the world. For instance, such gaming venues could be opened in conjunction with traditional sports facilities. In some countries, the emergence of such facilities was noted in the interviews, however, most of the interviewees mentioning this were located in Europe. Additionally, efforts should be made to provide affordable access to high-quality equipment and stable internet connections, ensuring that all individuals, regardless of their socio-economic status, can participate in esports.

I'd say we [in Finland] need gaming venues, so people can play with the right equipment because not everyone can afford the gaming setups that might be costing them several thousand (Participant 1, Tournament organizer)

[In the Netherlands] there's not really an infrastructure on a lower level in order to develop your abilities, (...) you're on your own in that aspect (Participant 15; Journalist)

I think that's why Korea has been so dominant for so long - the ubiquitous internet. They were one of the first with ubiquitous internet for everyone. (Participant 51; PR head)

5.2.7 Theme 7: Social responsibility

5.2.7.1 T7.1 Impact on the Planet. The last, but not least important theme, concerns how the esports industry and competition can influence the climate. One of the participants mentioned the results of a report which indicated that the esports industry is responsible for significant carbon emissions, primarily due to the energy consumption of gaming hardware, data centers, and large-scale events. Apart from this, electronic waste and the environmental impact of producing gaming hardware were mentioned as possible effects of the esports industry's influence on the environment. A likely response to this problem was identified in adopting more energy-efficient technologies, promoting the use of renewable energy sources, and implementing virtual tournaments to reduce travel-related emissions. Additionally, raising environmental awareness regarding esports' impact on the planet might be key.

I think that we need to do stuff about climate change. The biggest issue is that we don't even know what the actual ecological impact of eSports is. Obviously, every sport deals with this, but in esports people won't touch it. Because people within the industry don't think it's an issue. (Participant 7; Amateur esports athlete)

Researchers estimate more than 14 million tons of CO2 [emitted by the esports industry]. The footprint is very high, because you have an office where the video game designers are, and then they have servers. Then the people are playing the games, they have a computer, and they go on the Internet, and maybe they are also streaming on Twitch. And then the people working at the game studio, they take a flight and go to a game developers conference. And the sea levels from the company. So yeah, video game development is extremely co2 heavy. Then there are esports tournaments. Think about (...) Intel Extreme Masters, Rio 2023, for example. It's very warm in Rio. So you have a big tent and you have a big hall where you have air conditioning. And then this is all powered by a diesel generator. And yeah, a lot of esports shows are powered by diesel generators because you cannot risk. (Participant 40 - Consultant)

5.3 Theme verticality

While the previous section presented each theme separately, insights from the interviews reveal a complex web of interdependencies. Governance, business models, career pathways, equality, and recognition are not isolated concerns but rather influence each other in ways that impact the industry as a whole. Such connections demonstrate that even small actions in one area of esports can substantially affect other dimensions, often creating feedback loops that either strengthen or undermine the sector's stability. This section explores these vertical links in greater detail.

Governance structures (Theme 1) establish the foundation for industry standards and influence every other theme. By providing stability, integrity, and credibility, governance directly affects careers (Theme 4), promotes inclusivity (Theme 6), and enhances recognition (Theme 5). For instance, industry legitimization (T1.1) fosters public trust, leading to a higher level of mainstream acceptance (T5.1). As esports gains legitimacy, educational institutions and investors become more willing to offer dedicated programs (T4.1) and funding, which in turn attract new talent (T4.2), improve working conditions (T4.4) and provide better structured career planning (T4.3). Further, regulated industry standards can create safer, more stable work environments that appeal to a diverse workforce, thereby boosting inclusivity and diversity (T6.1, T6.2).

These relationships are circular: with better work conditions and a stronger focus on educating the workforce, the industry becomes more legitimate, further reinforcing governance as a stabilizing force. Moreover, as governance bodies standardize practices—be it anti-doping regulations or contract transparency—they contribute to public awareness and acceptance of esports, boosting recognition (Theme 5). Greater recognition then strengthens

governance credibility, creating a feedback loop that mutually reinforces both public perception and regulatory authority.

The esports business model (Theme 3) has a similarly broad impact, particularly on career sustainability (Theme 4) and public perception (Theme 5). For example, a stable, diversified revenue model could diminish the financial uncertainty that often leads to high turnover rates and short career lifespans (T4.2, T4.3). With consistent funding, organizations are better positioned to offer meaningful benefits—such as health support, structured training programs, and career-development pathways—that not only retain experienced professionals but also draw in a more diverse pool of new talent, thus promoting inclusivity (T6.1). Simultaneously, as the public becomes more aware of esports (through enhanced T5.1 recognition), investors and sponsors become more likely to allocate resources, thereby stabilizing financing streams (T3.1). This interdependence means that while governance can set rules and encourage best practices, financial solvency provides the practical means for implementing them.

An increase in public recognition (Theme 5) can yield more benefits than just mainstream awareness. As esports enters the public eye, it becomes subject to greater scrutiny regarding environmental impact, ethics, legal matters, and social impact (e.g., T5.1, T7.1). Issues like corruption (T1.3), inadequate work conditions (T4.4), or the abuse of power by game developers (T3.2) become more visible, prompting greater accountability. This heightened visibility also affects equality and inclusivity (Theme 6). When any form of discrimination—be it against women, minority groups, or professionals from underrepresented regions—is exposed, public attention can catalyze calls for reform. In turn, improved inclusivity fosters talent acquisition and retention (T4.2), helping the industry expand both its talent pool and its global reach.

However, the central role in shaping the esports industry's landscape appears to be data access and creation (Theme 2). Limited data access allows powerful stakeholders—particularly publishers and governing bodies—to maintain hegemony over the industry (T1.2, T3.2). Conversely, more open, transparent data could empower smaller organizations and community groups, supporting more evidence-based business models that could reduce reliance on unstable revenue streams (T3.1). Further, open data challenges the "superpower" of game developers (T3.2), encouraging smaller entities to enter the market, thus contributing to a growth in competition, better balance of the ecosystem, and a more grassroots-focused environment.

Moreover, accessible data can inform policies on career development (Theme 4), enabling educational programs to identify actual skills gaps and optimal training pathways. This information should also help stakeholders understand regional disparities and infrastructural needs (T6.1, T6.3). From an environmental perspective (T7.1), data-driven metrics could track carbon footprints, energy consumption, and e-waste, leading to more eco-friendly practices and guidelines, thus allowing to minimize energy use and optimize resources, which would reduce the industry's overall environmental impact. Thus, increasing the availability of industry data does more than foster further research; it leads to a more transparent, competitive, and sustainable ecosystem.

Taken together, these themes form a network of reciprocal relationships. Strong governance boosts legitimacy, which supports a healthy business environment; a stable business environment creates better career options; broader career options cultivate inclusivity; and inclusivity, in turn, expands public recognition. All of these elements are amplified or constrained by the degree of data openness and the ability to make informed, community-focused decisions.

Such synergy suggests that efforts to improve the industry could include addressing multiple themes simultaneously. Implementing standardized regulations without stabilizing revenue streams, for instance, may yield short-term gains but fail to solve deeper career and industry issues. Likewise, focusing on inclusivity only without addressing governance or business models can result in unsustainable, fragmented solutions. A holistic, data-informed approach that recognizes these interdependencies stands the greatest chance of elevating esports toward long-term sustainability, equitable growth, and widespread acceptance as a legitimate sporting and cultural phenomenon.

5.4 Discussion

This qualitative study, using a diverse and heterogeneous sample, explored current issues in the sustainability of the esports industry and how these, consequently, might affect esports athletic careers. This study identified seven themes—governance, knowledge access and creation, business model, careers, recognition, equality and inclusivity, and social responsibility—that highlight how various elements of the esports ecosystem intersect. These themes resemble, albeit not exactly, those previously identified in related works (e.g., Nyström et al., 2022; Hong & Wilkinson, 2020, 2021). However, by focusing on the sample's heterogeneity, this study uncovered many specific facets of the industry associated with different stakeholders and their demographic properties. Some of these themes, if seen through the career modelling perspective, might serve as both gates for career transitions and various "other characteristics".

Current findings suggest that the esports industry shares a number of similarities with traditional sports and other entertainment industries (e.g., cinema). For example, with some of its characteristics, like the overwhelming power wielded by game developers (Ridenhour, 2019; Scholz, 2019; Taylor, 2012) and its "superstar market" dynamic (Ward & Harmon,

2019), the esports industry is not much different from cinema (e.g., Ravid, 1999). These characteristics, along with other issues such as unstable business models, limited recognition, and inadequate working conditions, create challenges for workers at every level of the industry—from athletes to organizers and coaches.

Despite this, the esports industry still attracts significant investment and public attention, allowing it, at least so far, to sustain itself. While overall beneficial, this public attention has also brought about scrutiny from governments, sponsors, and the media. Scandals or mismanagement can quickly erode trust, and the governance landscape remains fragmented, with multiple federations competing for legitimacy and lacking the authority to enforce unified standards. Much of the structural power remains in the hands of developers, who have nigh absolute control over intellectual property rights and competitive formats, enabling them to shape the ecosystem in ways that may limit grassroots growth and community-led initiatives, examples of which will be discussed further. Inclusivity and demographic variability further complicate these sustainability issues. Women, minority groups, and players from less-developed regions face systemic barriers ranging from harassment and unequal access to infrastructure to cultural or regulatory constraints as both the stakeholders and the literature converge (Adinolf & Turkay, 2018; Fletcher, 2020; Hussain et al., 2021; Taylor, 2012; Xue et al., 2019). Opportunities and career pathways vary widely by region, pointing to the need for localized policy and program design rather than one-size-fits-all solutions.

Moreover, work conditions for many esports athletes remain precarious. While top-tier athletes have access to both fame and revenue, the majority of industry workers face low pay, unstable contracts, and limited health or educational support. The “superstar market” dynamic leaves many without transferable skills or long-term security, and barriers to unionization—including high turnover, global fragmentation, and unclear employment

classifications—persist. Educational and career development pathways are similarly underdeveloped; aspiring professionals often lack structured grassroots systems, and existing programs frequently focus on technical or broadcast skills while neglecting vital competencies such as health literacy, legal awareness, and career planning.

Despite these challenges, the industry's rapid growth offers an opportunity to address them proactively. Initiatives inspired by the UN's Sustainable Development Goals and the IOC's increasing engagement with esports (IOC, 2020; United Nations, 2025)—such as promoting fair governance, expanding grassroots participation, integrating dual-career support, and adopting environmentally responsible practices—can help align the industry's expansion with long-term viability, and thus increase chances for career success among those engaged. By fostering collaboration between developers, federations, governments, and community organizations, esports can move toward a more sustainable, inclusive, and equitable ecosystem capable of supporting its diverse stakeholders. All in all, if at least some of the "other characteristics" from the KSAO typologies that were herein suggested before are provisioned at the industry level, not only the industry sustainability could improve, but so too should the sustainability of those involved.

5.5 Conclusions

The esports industry is still well in its infancy, so it should not surprise that it is riddled with many issues and uncertainty about what the future holds. Those issues range from decentralized governance and unclear business models to insufficient labor protections, subpar work conditions, and limited grassroots development. Though esports remains lucrative (for some) and culturally influential, it is still very much a developing industry in need of structured reform.

Yet, there is reason for optimism. Current findings show that even minor improvements in governance, data transparency, and various educational efforts can create positive feedback loops affecting careers, inclusivity, and overall sustainability. Aligning esports with broader global initiatives—like the UN's Sustainable Development Goals and IOC's Olympic Agenda 2020+5—could provide a good point of reference for addressing many of the concerns identified in this section. In the following final discussion, this dissertation will consider these agendas and the current insights, focusing primarily on how these could support esports athletes, both professional and amateur ones. With this, both minor and major esports industry stakeholders could work towards strengthening the industry's legitimacy, broadening public support, and moving toward a more sustainable, inclusive, and transparent esports ecosystem.

6. Discussion[7]

Prior research has recognized that modern careers often do not follow a single, predictable linear trajectory (e.g., Arthur & McMahon, 2005; Bright & Pryor, 2011; Meng-Lewis et al., 2022; Patton & McMahon, 2006). Indeed, contemporary career models emphasize complexity and non-linearity, challenging the notion of spending a lifetime in one organization (Bright & Pryor, 2013). Esports athletic careers are a perfect example of this phenomenon, as they provide a relatively new occupational pathway that, while sharing some characteristics with traditional sports careers (e.g. early skill development, competitive progression), are also unique thanks to the digital and organizational contexts in which they occur (e.g., Meng-Lewis et al., 2022; Trepanowski et al., 2024a).

The dissertation investigated these contemporary careers from an occupational psychology perspective. It adopted a mixed-methods approach, including: (1) a scoping literature review; (2) an open-ended online survey; and (3) semi-structured stakeholder interviews. The main aim of these studies was to explore how esports athletic careers are currently understood and what they require for success. The findings address four key research questions. Answering the first two, the academic literature largely frames esports careers in staged, linear terms (RQ1) and identifies, although mostly implicitly, numerous competencies and characteristics facilitating career development (RQ2). Based on this, an initial version of the career model was suggested. The results of the literature review were then contrasted with community and stakeholder perceptions, showing that these careers are

[7] This chapter presents either exactly the same or modified fragments of the following paper under review:

A. This chapter presents either exactly the same or modified fragments of a published paper: Trepanowski, R., Li, W., & Hamari, J. (2024a). Perceptions of esports and esports athleticism among gamers. In *International GamiFIN Conference* (pp. 10-22). CEUR Workshop Proceedings.
B. Trepanowski R., Wu L., Hamari, J. (2025). Competences, skills, knowledge and other factors influencing esports athletic careers progression. [in review]
C. Trepanowski R., Wu L., Hamari, J. (2025). Esports career model: a mixed methods review. [in review]
D. Trepanowski R., Wu L., Hamari, J. (2025). Is the esports industry sustainable? An interview study [in review]

often viewed as legitimate, highly skilled paths akin to traditional sports, yet plagued with uncertainty and numerous issues. The stakeholders validated the initial version of the model, however, they noted that it requires substantial revisions, which were applied in the model's iteration presented hereafter (RQ2; RQ3). Finally, stakeholders described their concerns regarding esports industry sustainability, thereby allowing for deeper exploration of the context in which esports athletic careers are embedded and showing how the shape of the ecosystem can influence these careers (RQ4).

In short, the results indicate that while esports athletes follow recognizable career stages, their progression is far less predictable than classic models suggest, due to individual circumstances and the specificity of the esports industry owing to its status as a new industry. Building on these insights, this discussion introduces a novel framework—the Esports Athletic Career Model (eSCM)---that integrates linear stage progression with non-linear, recursive elements and a competency-based perspective. This model is divided into a career-path framework (eSCM-P) and a competency map (eSCM-C). The sections below present the eSCM and then examine its theoretical and practical implications, before addressing the study's limitations and suggestions for future research.

6.1 The esports athletic career model (eSCM)

Results from the scoping review indicate that most of the published literature has framed the esports athletic career in a linear, staged view (e.g., Kim & Thomas, 2015; Salo, 2017), often by applying traditional career models such as the Holistic Athletic Career model (Wylleman & Lavallee, 2004). Only one work explicitly advocated a non-staged, non-linear perspective, namely a recent study which applied the Chaos Theory of Careers (Bright & Pryor, 2011) to esports (Meng-Lewis et al., 2022). However, the current stakeholder interviews complicated this picture somewhat. Stakeholders, both amateur and professional, were less convinced of

this career's linearity, with many reporting substantial variability based on region of origin, ethnicity, gender, age, esports type, game genre, political environment, and other demographic or individual factors. Thus, in their view, no single rigid sequence of stages could apply to esports athletic careers, although many stakeholders acknowledged a degree of linear progression or typical stages. They stressed that this likely stability appears mostly under specific conditions—namely, living in a region with strong esports infrastructure, competitions, and tournaments. In less developed contexts, careers were seen as far more erratic.

Meng-Lewis et al. (2022) argued that clear career transitions or stages in esports athleticism have yet to be established. Current results challenge this notion by indicating that such stages may have emerged, though their presence depends heavily on contextual factors. This insight shows that even in "chaotic" career systems, patterns or stages can emerge. At the same time, it counters traditional linear models (like the HAC) by emphasizing the importance of irregularity and recursiveness. More directly answering RQ1 and RQ3, current results indicate that the prevailing academic view of a linear esports career path is only partially valid.

With this in mind, this dissertation developed a novel Esports Athletic Career Model (eSCM) that merges a typical linear pathway with the broader, shifting context of esports. The model has two interlinked components: (1) a recursive career-path diagram (eSCM-P) capturing how players progress through and can loop among career stages, and (2) a competency and characteristic taxonomy (eSCM-C) detailing the knowledge, skills, abilities, and other factors (KSAO) required for progression. However, this model does not connect specific KSAOs to career stages due to insufficient data, as this required further quantitative, longitudinal exploration. By explicitly modeling KSAOs, the present work incorporates both the developmental domains seen in HAC-like stage models and the contextual factors

emphasized by non-linear career theories. In doing so, the eSCM framework bridges the gap between linear career models and the more dynamic, non-linear ones. It provides a structured path without assuming that this path is fixed or universal. The model is presented in more detail below.

6.1.1 Esports Athletic Careers - Career path (eSCM-P)

The early version of the Esports Athletic Career Model - Career Path (eSCM-P), initially proposed after the literature review in Study 1, underwent critical evaluation by stakeholders in Study 3. Overall, participants endorsed the idea of a staged career path (from initiation to discontinuation). However, they also identified a few limitations in this approach. In the most notable example, they believed the model to be idealistic. The stages and how the career progressed at different developmental levels, according to the stakeholders, are unlikely to be universal across genres and demographics. Different game genres or esports types might facilitate different career progression. For example, fighting games allow for longer careers, MOBA and FPS games tend to feature shorter careers, and careers in virtual sports (e.g., virtual triathlon, virtual cycling) begin at a much later age. In contrast, careers in speedrunning time-based competition in single-player games) offer chances of achieving success enough to sustain oneself that are vanishingly small if one relies solely on competing. Moreover, some interviewees noted that in regions like China, legal regulations enforce a later start (around age 18) for professional play, whereas in the U.S. players often begin much earlier. These observations suggested that a universal timeline would be unrealistic. In response, the model was revised to accommodate variable pacing of stages depending on external conditions.

Another major observation was the possibility of re-entering the career after a hiatus, echoing Kim & Park (2010) and Kim & Thomas (2015), who posited that—after reaching a

certain point—athletes might enter a "recovery stage" allowing them to resume the career at any previously achieved stage. The stakeholders confirmed that such recovery is not only feasible post-retirement but also at any point in the career path (for instance, a player taking a break in mid-career and then coming back). To capture this, eSCM-P was explicitly designed as a recursive cycle rather than a set sequence of stages. Athletes can exit and later re-enter the circuit, reflecting the cyclical nature of their careers. Similarly, stakeholders recommended that the discontinuation stage should be placed as an option after any stage, not only after skill degradation or at the end of the mastery stage. Thus, a competitor may discontinue (temporarily or permanently) at any time and either end their career or attempt a comeback via the recovery loop. For instance, after reaching a professional tier, a player might shift to a new game or role (a lateral move akin to a career change) or take a break and later return, thereby repeating an earlier phase.

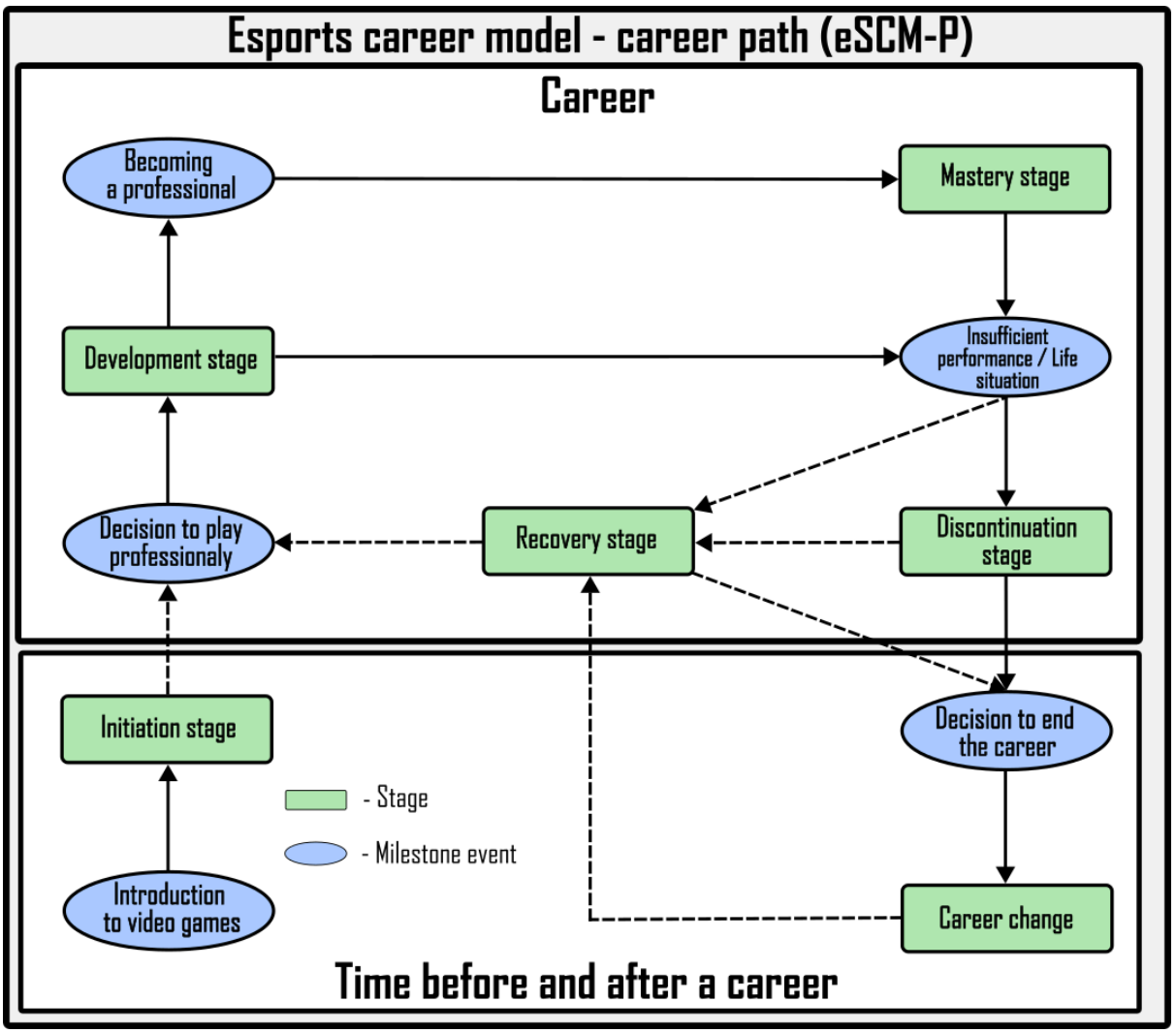
This recursive approach somewhat mirrors classic career models such as the Systems Theory Framework (Patton & McMahon, 2006) and Super's (1980) Life-span, Life-space Theory. Super (1980), for instance, used a recursive approach to describe the career decision-making process, suggesting that specific points in time allow for branching decisions within a generally cyclical progression. Moreover, if what comes before an esports career is incorporated with that which occurs after a career change, it aligns with Super's (1980) view that life-career progression is a closed circuit; each ending spawns a new career with its own specifics.

Overall, while participants generally agreed with the model's underlying progression, their viewpoints varied with their backgrounds—spotlighting different factors. Consequently, the earlier model was modified by moving away from strict reliance on the HAC framework, emphasizing recursion, introducing "milestone events,", which are specific career transitions,

and by partially detaching it from a rigid personal development timeline. This dissertation does not discard the HAC's developmental areas completely as those seem key for understanding career progression, but instead refers to some of their aspects in the KSAO competency model (Figure 12). This new, revised model appears in Figure 11.

Figure 11

Esports career model - Career path (eSCM-P)



Note. Dotted lines represent optional transitions, meaning a person could indefinitely remain at a career stage before the dotted line. A continuous line indicates a typical or ideal career path, presumed for most people undertaking this career.

At its core, this revised model retains HAC's athletic-level terminology: initiation, development, mastery, and discontinuation. In this version, the final stage splits into two pathways—recovery and career change—encompassing ideas from prior works (e.g., Kim & Park, 2010; Kim & Thomas, 2015; Salo, 2017; Wylleman & Lavallee, 2004). Stakeholders broadly agreed that these stages match the original concept. Initiation marks initial engagement and practice; however, is not yet a career since no professional intent exists—stakeholders described this decision as the milestone that initiates the career. In development, athletes commit to practice, begin early career opportunities, and seek financial viability through esports. During mastery, an athlete reaches the professional level, competing (or aiming to compete) at high tiers. Finally, discontinuation matches retirement, whether normative or non-normative (Hong, 2022; Salo, 2017; Tekavc et al., 2015; Wylleman & Lavallee, 2004; Wylleman et al., 2013). Based on stakeholder insights, discontinuation can occur at any stage except initiation. Following discontinuation, players may enter a recovery stage, exploring options to return or exit esports altogether. It should also be noted that eSCM-P is divided into the career proper and the time before/after career. While the former was already explained, the latter refers to: (1) a career change process, which usually leads to a shift to a different professional path, and is preceded by a decision to end the career; and (2) the initiation phase, as understood in the HAC, where individuals play for fun, learn about gaming, engage in gaming communities, but without the intent to go professional.

In addition, the model does not follow age progression and thus, does not assume parallel development in the developmental areas suggested by HAC. For instance, fighting games esports athletes (e.g., Mortal Kombat) may start and end their careers later than Fortnite esports athletes, rendering the psychological development non-parallel to the athletic development (as in the HAC). Stakeholders voiced similar views about other levels of the HAC model, claiming they do not always run in parallel when age is considered. By creating

an independent KSAO model to supplement the career model, general career development was separated from the age-dependent structure of the HAC—allowing for more holistic development without being bound by a chronological framework. It should be noted, however, that this might become a limitation of this model. Removing developmental areas makes it more difficult to associate specific contexts and competencies with career stages (e.g., at what stage which ability is most key?). As noted, such associations are not present in this iteration of the model, due to a need for longitudinal exploration. Consequently, while this model conceptualizes the esports athletic career path, as of now, its practical applicability is slightly limited.

Following stakeholder suggestions, this model also introduces specific milestone events between stages to mark critical career transitions. The eSCM-P defines key decision points that an esports athlete is expected to experience in order to progress. Five such milestones were identified based on the interviews (and the open-ended survey): (1) introduction to video games; (2) decision to play professionally; (3) becoming a professional; (4) experiencing a decline in performance or life circumstances that hinder further progress; and (5) the decision to end the career. Among these, the most important milestone is the decision to play professionally, as it is the main marker of career onset. Without this choice, an individual remains in the "initiation" stage or, in Kim & Thomas's (2015) words, "enjoyment" stage, where one simply plays casually with no professional ambition. By contrast, once that decision is made, the subsequent milestones (like joining a professional team or suffering from performance decline) represent critical junctures where a career can either advance, plateau, or end. Similarly, the first milestone event, namely the introduction to video games marks a transition between a gamer and non-gamer; still not yet an athlete; whereas the decision to end the career usually indicates a transition outside of esports athleticism into a different career path, beginning the cycle anew. This approach does not

disregard other career transitions as marked in the HAC, but simply emphasizes the most important ones.

In summary, the eSCM-P provides a staged and structured yet flexible map of esports athletic careers. It validates that a typical athletic career progression may exist in esports, thus extending classical, stage-based models (e.g., Wylleman & Lavallee, 2004; Wylleman et al., 2014) to this new domain. It also challenges how stable these models are by incorporating the recursiveness, and context-dependent timing highlighted by the current results. With such an approach, eSCM-P should capture both the typical pathway and alternative ones, especially when supplemented with eSCM-C described hereafter.

6.1.2 Esports Career Model - Competencies and Characteristics (eSCM-C)

Progressing through any career stage requires specific context, opportunities, and the development of certain competencies and attributes that often depend on career type. Using insights from the studies reported in this dissertation, it identified a set of KSAOs that facilitate both success and progression in esports athletic careers. Generally, in order to advance from one stage to another or to reach a certain milestone, an individual is typically expected to fulfill a set of conditions. For instance, progression from initiation stage to the development stage typically requires solid in-game skills and game-specific cognitive abilities. In contrast, for entry into esports such skills are not yet critical, as all that is needed is access to gaming infrastructure, communities, adequate supporting social conditions and similar enablers. Advancing to mastery from development, in a different example, would be difficult without at least basic marketing and legal knowledge, since building one's personal brand or avoiding exploitation necessitates these. As one of the stakeholders noted, while legal or marketing knowledge can sometimes be outsourced, an esports athlete without any

expertise in these areas is much more vulnerable to exploitation. Accordingly, career progress is inadvertently associated with competencies and characteristics of those involved.

This dissertation identified ten overarching categories of KSAO vital for esports athletic careers (see Figure 12): (1) Game competencies, (2) Cognitive functions, (3) Health, (4) Psychological competencies, (5) Social competencies, (6) Occupational competencies, (7) Ethical adherence, (8) Digital competencies, (9) Support structures, and (10) Contextual factors. The first eight categories correspond to individual competencies that an athlete cultivates, namely different skills, knowledge and abilities, whereas the last two (support structures and contextual factors) refer to external, contextual or environmental "other characteristics" that influence the athlete's career. Support and context are deliberately under the KSAO framework's "other characteristics" because, as participants indicated, aspects like access to conditions for practice, access to infrastructure or support from one's family are not traits of the athlete *per se*, yet they are crucial facilitators of career development. The current model's emphasis on competencies and external conditions is not completely detached from the Holistic Athletic Career model's developmental levels (e.g., Wylleman & Lavallee, 2004), as it also considers development from multiple domains (e.g., psychosocial)—but with a stronger focus on specific elements of these levels without considering them linearly. It is also somewhat aligned with the perspective on competencies presented in the boundaryless career model (e.g., Arthur & Rousseau, 1996) by recognizing that what one knows and whom one knows both matter for career development, alongside why one decides to pursue the career.

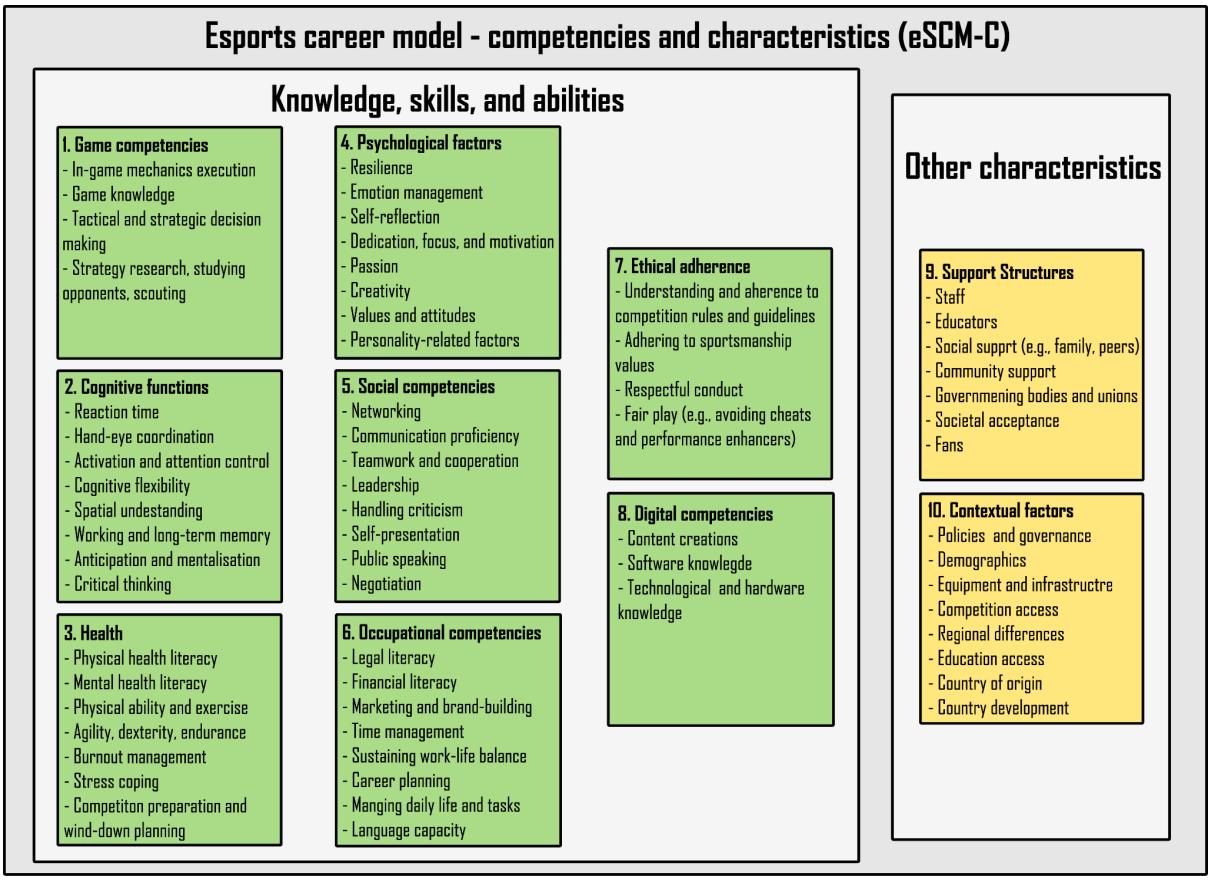
However, this model does not follow the Competency Iceberg (Spencer & Spencer, 1993) division of competencies into surface and core competencies That is primarily because the ten categories distinguished herein often include competencies from both of these layers.

For instance, in psychological competencies, different types of knowledge and skills appear, which are surface competencies, but also traits and motives also fall into the category of psychological competencies, despite being core competencies. The closest comparison to core and surface competencies would be current division into “knowledge, skills, and abilities” vs. “other characteristics”; where the former mostly refers to that which is more visible, easier to train and measure, while the latter mostly consist of external conditions, context, or support, which are harder to affect. All in all, this model remains most closely connected to the KSAO framework (e.g., Campion et al., 2011; Rodriguez et al., 2002; Sanchez & Levine, 2009; Stevens & Campion, 1999), using its terms and following the overall idea presented by the framework, but classifying the competencies into different groups.

It should also be noted that both the literature and the stakeholders sometimes emphasized different competencies. For instance, the review found that the literature often highlighted the importance of social support (family, team, coaching, etc.) and physical abilities for esports success. The interviews, while not emphasizing these to the same extent, placed much greater emphasis on digital literacy and media skills, reflecting the realities of the esports industry. Figure 12 visualizes the abovementioned model showing ten KSAO categories with their sub-components.

Figure 12

Esports Career Model - Competencies and Characteristics (eSCM-C)



The categories presented in the "knowledge, skills, and abilities" part of the model provide a combined version of KSAOs found in the reported studies, which could be considered mostly surface competencies (Spencer & Spencer, 1993). Game-related skills are presented as the first category due to their central place in esports athletic careers. Following these are cognition, health, and psychological factors, all of which also directly influence in-game or on-stage performance. Social skills, occupational skills, ethical adherence, and digital skills are categories more broadly related to career development and progression, affecting the career rather than gaming performance.

In the other bracket, namely “other characteristics”, are social support and contextual factors. The former relates to specific support provided by different groups, as well as the wider society, while the latter relates to all that is mostly beyond the athlete’s control, that provides the context in which their careers exist. These factors also influence other KSAOs by providing context to their acquisition. For instance, a lack of social support in terms of community engagement or educational opportunities might diminish an athlete’s chances of acquiring game skills and knowledge early on, while country-specific factors might limit the acquisition of occupational skills or health knowledge based on how the educational system is structured.

As noted earlier, lacking some of these “other characteristics” does not outright prevent career progression, but it makes advancement much more difficult. For example, being from an underdeveloped region (e.g., Central Africa) or a minority group does not make an esports athletic career impossible, but as the stakeholders pointed out, it reduces the chances of becoming a professional. This could be due to obstacles like different treatment of individuals from these groups (e.g., difficulties obtaining visas or finding willing competitors) or a lack of opportunities (e.g., no teams recruiting from a specific demographic or absence of tournaments in a particular region).

Likewise, an athlete can succeed without strong family or educational support, but having that support significantly eases the process. For instance, by providing funds needed to enroll in an esports academy or simply providing encouragement and resources during training. Similarly, parental or academic support at early career stages might reduce the learning workload (e.g., when attending an esports-focused school/class), thereby allowing more time for competition practice. Later in one’s career, support from fans, team staff, or a broader community becomes equally important as a buffer against burnout and a source of

opportunities. All of this shows that competencies do not exist in a vacuum. They are developed within a specific context. Referring back to existing theoretical perspectives, this finding aligns, for instance, with person–environment fit models (e.g., Su et al., 2015), such as Holland's Theory of Vocational Personalities and Work Environments (Holland, 1959, 1997) or the Theory of Work Adjustment (e.g., Dawis & Lofquist,, 1984). As Su et al., (2015) explain, person-environment fit theories assume that people seek environments that allow them to manifest their traits; fitting the environment leads to significant work/career consequences; and people shape their environments and *vice versa.* The current perspective draws on this logic.

While previously presented descriptions of the findings maintain the specific language from cited papers and stakeholders, this consolidated classification also, to some extent, references ESCO (European Skills, Competences, Qualifications and Occupations classification; European Commission, 2024) for better validity and cross-career comparison (Campion et al., 2011). The current approach aims to help esports athletes and other stakeholders more easily identify what is necessary for success in this career, what future prospects exist, and how one can prepare for life after esports. To a limited extent, exploration of possible avenues for future careers based on a few key esports competencies was already reported in some previous works. For example, Smithies et al., (2020) has shown how these competencies translate into different career paths, especially indicating significant overlap in expertise between esports athletes and military drone operators, pilots, and air traffic controllers. As previously claimed, esports athletes share many competencies with professional sports players and performers as presented in the ESCO directory (European Commission, 2024). These include lifestyle adaptation for performance, applying sports rules, managing sporting careers, and coordinating with media. Aside from certain physical requirements, esports athletes appear functionally similar to their traditional counterparts,

suggesting potential career transitions. However, note that esports athlete roles are not officially recognized as occupations within ESCO and likely in other such directories—yet.

In conclusion, by identifying ten distinct KSAO areas, this dissertation contributes a structured guide for discussing esports career development. This is significant because, prior to this work, research on esports athletes often mentioned various required skills or issues (e.g., Chansaengsee, 2022; Nielsen & Hanghøj, 2019; Pedraza-Ramirez, 2020; Taylor, 2012; Vilasís-Pamos & Pires, 2021) but lacked a unified framework. Moreover, the inclusion of support structures and contextual factors as formal categories reinforces the idea that improving the surrounding system (e.g., providing better infrastructure or legal protections) is just as important as the athlete's own efforts. In some cases or regions, it may be even more important.

6.2 Theoretical implications

Building on the current results as well as linear and non-linear career models outlined in the introduction, this dissertation contributes to many areas of research, including career studies, HR, occupational and sports psychology, and, of course, esports research. By examining esports athleticism through the lens of a model that incorporates both linear and non-linear perspectives, this work offers insights into modern career development theories that are especially relevant for contemporary careers often subject to constant flux and influenced by a multitude of personal and contextual factors.

Historically, careers were assumed to follow linear, easily predictable, and controllable pathways (e.g., Holland, 1985; Super, 1980). Contemporary approaches are far more complex and generally reject a single-line view of a career that begins early in life and leads to a stable profession—often within one organization (Strunk, 2009). Linear models are now widely viewed as limited, overly simple, and too static or rational (Peake & McDowall,

2012; Pryor, 2016). As a result, more complex frameworks (e.g., the Chaos Theory of Careers; Pryor & Bright, 2007) have emerged to address uncertainty and a broader range of influences, acknowledging multiple holistic influences, uncertainty, and the presence or absence of linearity in career paths (Pryor, 2016; Reitzle et al., 2018). These approaches recognize that small chance events or chance encounters can have a cascading impact on one's career (Pryor & Bright, 2011), while also promoting the notion that individuals continuously reshape their career paths in response to changing conditions (e.g., Savickas, 2005).

Of course, both linear and non-linear perspectives yield worthwhile insights, and they are combined in the currently suggested model. Following the linear perspective, this dissertation proposes that, as some of the interviewed stakeholders described them, typical career paths and transitions (as in eSCM-P) can be specified for nearly any career—even if certain careers have not yet crystallized into well-defined pathways due to their novelty. Esports athletic careers arguably fit this description prior to the current studies (Meng-Lewis et al., 2022). This typical path can be modified by various factors—contextual or otherwise—consistent with the Chaos Theory of Careers (Pryor & Bright, 2007) or planned happenstance framework (Mitchell et al., 1999), yielding unique or unexpected career trajectories. The eSCM addresses this variability through two elements: (1) the recursiveness embedded in eSCM-P and (2) a eSCM-C competency model.

While often implied rather than stated outright, recursiveness has been suggested in many models and theories. For instance, Super's Life-Span, Life-Space Theory (1980) emphasized how each career decision can cyclically influence others through a complex process aimed at realizing specific career goals. This creates a closed inter-career circuit of decision processes, similar to what is presented in eSCM-P. In esports, Kim & Park (2010)

and Kim & Thomas (2015) illustrate how athletes can enter a “recovery stage” after career discontinuation, effectively returning to earlier stages. Accordingly, the present data show that upon reaching a certain stage or milestone, an individual may revert to previous stages—with the exception of the initiation stage, as explained earlier. Brousseau et al. (1996) also suggested that a career can follow a spiral order, where an individual remains in one field but eventually switches to another, thereby accumulating mastery across multiple domains (e.g., Lichtenstein & Mendenhall, 2002). The current model aligns with this logic by including a “decision to end the career” milestone and a “career change” stage. Although returning to esports athleticism after a full withdrawal is possible, it is more common for individuals to pivot to a different career path. Their existing experience, skills, and other competencies are not wasted, as many are transferable across career contexts (Lichtenstein et al., 2002). For instance, skills in networking or social engagement remain valuable whether one is an esports athlete, a gaming journalist, or even a carpenter.

The secondary model, the eSCM-C, details the competencies and "other characteristics" (KSAOs) essential in esports athletic careers. According to various scholars (Arthur et al., 1999; Greenhaus et al., 2008; Lichtenstein & Mendenhall, 2002), careers are “containers for competencies,” encompassing “know-why,” “know-how,” and “know-whom” components. Such competencies are often developed non-linearly, especially in fields like esports where self-driven improvement, feedback loops, and continual adaptation to a shifting meta are critical (Hall, 1976; Lichtenstein et al., 2002). In protean careers (Hall, 1976), increased personal responsibility fuels the drive for improvement and the pursuit of future opportunities. Opportunities in turn give rise to further improvement and so on. The skills, competencies, or contacts generated in such a way are not proportional to the responsibility exhibited or energy expended by the individual. Over time, this investment grows in a

logarithmic fashion: more upfront effort in the early stages yields greater returns down the line (Lichtenstein et al., 2002). Nonetheless, contextual constraints can limit this process.

As noted, an individual's developmental potential depends heavily on initial conditions—cognitive ability, demographic traits, or family circumstances can shape career opportunities for better or worse. For example, in the classic delayed gratification study (Shoda et al., 1990), children's ability to delay gratification correlated strongly with later achievements, but follow-up research (e.g., Watts et al., 2018) showed that demographic factors (e.g., mother's education, early cognition, family environment) significantly affect outcomes. Similar patterns emerge in career research, where initial inputs are closely linked to ultimate career outputs (Meng-Lewis et al., 2022; Pryor & Bright, 2011). The current work extends previous esports research by systematizing the range of contextual factors and highlighting KSAOs that can shape esports athletic careers. For instance, as participants indicated, athletes from less-developed regions may follow a career path similar to those from more affluent areas, but they face a practical "glass ceiling" due to limited opportunities, thereby capping career achievements. Moreover, career development depends not only on external context but also on the individual KSAOs outlined in eSCM-C—such as psychological traits, physical health, or work-related variables—which can interact recursively (e.g., Kuijpers & Scheerens, 2006). However, this dissertation lacks sufficient causal data to quantify how each factor influences the others or to determine which are most critical. Future studies should therefore investigate the causal relationships among these factors in the eSCM-C.

From a chaos-theory standpoint, the complexity of career systems suggests that even minor changes can radically alter trajectories (Peake & McDowall, 2012; Pryor & Bright, 2007). Consider a novice esports athlete who unexpectedly meets a team manager at a local

tournament. This chance interaction could lead to employment, rejection, or no outcome at all—revealing how external factors can spawn unpredictability. Nonetheless, chaos theory draws on physical sciences and may have some limitations in human contexts (Peake & McDowall, 2012). Similarly, more "mathematical" career approaches can be critiqued for their assumptions of rational linearity (Lichtenstein & Mendenhall, 2002). While the suggested model is not unique in its reliance on social data—many career models utilize such data—it does offer an integrative perspective by weaving insights from both linear and non-linear frameworks, thus balancing structured progression and unpredictable events.

Additionally, this model is compatible with sports research via the HAC (Wylleman & Lavallee, 2004) framework, one of the most influential models for athletic careers. By situating esports within a framework that considers multiple developmental contexts (e.g., athletic, psychosocial, legal), this dissertation addresses the distinctive realities esports athletes face—especially regarding early peak performance, uncertain legal classification, and limited financial support.

Lastly, the eSCM aligns with contemporary career frameworks, especially the boundaryless and protean career models (Briscoe & Hall, 2006; Greenhaus et al, 2008; Hall, 1986). As Greenhaus et al. (2008) note, boundaryless careers are characterized by high horizontal mobility, significant external networking, and the flexibility to discontinue or reject certain opportunities due to personal reasons. Such features are evident in esports, where athletes frequently shift teams, roles, or even locations, unconstrained by a single employer. Similarly, protean careers are driven by personal values and self-directed growth. This closely parallels esports, where success often hinges on an individual's motivation, adaptability, and self-management, rather than organizational structure or hierarchy. In this

sense, career capital accrues across experiences (training, education, prior roles) and is mobilized by the individual rather than dictated by a single organization.

In conclusion, by combining linear and non-linear approaches, adapting HAC principles, and highlighting the significance of KSAOs, the current dual-model framework (eSCM-P and eSCM-C) offers a theoretical lens for understanding contemporary careers like that of an esports athlete. It shows how typical staged progressions can coexist with unexpected changes driven by context and individual factors, ultimately advancing theoretical discourse on career development and demonstrating how dynamic competencies and personal agency intersect with structural opportunities and contextual constraints.

6.3 Practical implications

The insights from the current research can carry a number of practical implications for esports stakeholders of any kind, ranging from aspiring athletes all over to policymakers. To ensure clarity, this section is organized into several subsections with likely practical relevance: esports education, athlete career development, inclusivity and diversity, governance and sustainability, and, finally, a look at how the current model could be applied beyond esports.

6.3.1 Esports education

Current stakeholders highlighted the scarcity of grassroots structures in esports. Unlike traditional sports, which often feature local clubs and school-based leagues to nurture talent, esports athletes are often expected to self-organise: find teammates, organise practice, pay for equipment, and locate tournaments (or online ladders) to compete in (e.g., Fletcher, 2020; Meng-Lewis et al., 2020; Rambusch et al., 2007; Scott et al., 2021; Seo & Jung, 2014). As one participant noted, in other sports most of these needs are met by local organisations such

as clubs. Although some local esports clubs and community-based organizations began to emerge—often with support from traditional sports institutions—a fully developed grassroots system has yet to appear (e.g., European Grassroots Esports, 2025). Such grassroots structure could facilitate practice with semi-professional or professional coaches and push the prospective athletes towards tournament participation as well as support creation of more open and available competition. Such grassroots structures would of course need to be manned by qualified personnel, including psychologists, coaches, managers, medical professionals, and others. However, existing professionals in fields like law or psychology often lack specific esports knowledge, making it harder for them to offer effective services. As such, well-developed educational and career-planning programs tailored for future esports professionals, regardless of their area of expertise, are necessary (e.g., Nyström et al., 2022; Scott et al., 2021).

In recent years, universities and private educational programs have started offering esports-related courses or degrees, which often focus on specific skill sets, like broadcast production and game design (e.g., European Game Developers Federation, 2024; Jenny et al., 2021; Lin & Zhao, 2020; Rothwell & Shaffer, 2019; Scott et al., 2021; Trotter et al. 2022). However, as current stakeholders noted, they do not always address other important career competencies or life skills such as health education or legal literacy—areas critical for long-term career sustainability—that should be supplied to prospective members of the esports community at the level of primary or secondary education, along with teaching them about career planning and development. Nevertheless, such educational esports programs do exist and, while they do not teach all the necessary career competencies (Trepanowski et al., 2025a, 2025b), they often aim to nurture industry-specific skills for those interested in esports or for esports athletes contemplating life post-retirement (Harris et al., 2022; Jenny et al., 2021; Lin & Zhao, 2020; Rothwell & Shaffer, 2019; Scott et al., 2021). What is more, by

combining intensive esports training with a solid foundation of general knowledge, they promote both athletic and academic growth (Anderson et al., 2018; Polman et al., 2018; Rothwell & Shaffer, 2019; Trotter et al. 2022). These programs, when executed appropriately, have the potential to foster positive psychological development and instigate health behavior change (Polman et al., 2018; Trotter et al., 2022).

Many participants also noted the need for holistic and universal career development programs, which seem to be missing from the industry space. They suggested that researchers should develop adequate career models that could be applicable regardless of demographics or aims of an individual. A number of such models were suggested throughout the literature (e.g., Hong, 2023; Kim & Thomas, 2015; Meng-Lewis et al., 2022); however, most of them focus only on esports athletic careers. The eSCM also offers such an esports-focused career model. With a heavy focus on career competencies, this model can be combined with frameworks such as the European Skills, Competences, Qualifications and Occupations classification (European Commission, 2024), allowing for better tailored esports-focused education. However, this model, while likely generalizable to other careers, still remains focused on only one type of career, thus further scientific exploration of its applicability remains necessary. All in all, better focus on esports-related education would help bolster talent acquisition, career development, and healthier work conditions, ultimately enhancing inclusivity and talent retention in the industry.

To provide an example of what can be done, secondary schools and universities can offer elective or extracurricular modules on esports, covering topics such as sport psychology, digital marketing, team management, and basic legal literacy. Such programs would help young gamers and esports athletes grasp their rights, responsibilities, and ethical obligations before they enter professional play, as well as prepare them for, otherwise unforeseen,

consequences. It could also be worthwhile to implement short-term certification courses aimed at coaches, team managers, or support staff to standardize training methods and enhance industry professionalism. Such courses could be built around the eSCM, which provides a guideline to what is important for esports athletic careers.

Granting open and free access to industry data would also enhance educational programs. Current interviews revealed limited data transparency, which, of course, gives large stakeholders (particularly developers and major tournament organisers) disproportionate power. If data on viewership, player metrics, and contractual arrangements were more readily available, smaller organizations could better plan events, develop new revenue strategies, and advocate for more informed governance measures. Similarly, prospective esports athletes could have an easier time planning their own career development by embedding it in a data-based structure.

Esports-focused education is a necessity considering the typical age of onset for this career. Many esports athletes, both beginner and experienced alike, lack exposure to formal career dimensions—like contract negotiations, sponsorship agreements, and employment regulations—leaving them vulnerable to unfavorable work conditions. While nationwide curricula may be impractical, specialized esports academies, vocational programs, and university-based courses could be extremely beneficial. In addition to improving data, providing educational resources to active athletes, whether general or targeted, remains a pressing need. On the one hand, this concerns specific guidelines, which could be based on the KSAOs that this work has distinguished, on the other hand, this also concerns issues connected to inadequate completion of mandatory curricula by young esports athletes. Many current players have had to compromise academic goals for esports. To deal with this issue, online-learning options tailored to esports schedules could be developed. These would enable

continued skill development while ensuring a fallback plan post-retirement. However, this may not be entirely feasible: athletes' schedules are tightly packed, and additional burdens could exacerbate physical and mental health issues.

6.3.2 Esports athletes' career development

Many esports athletes may find themselves ill-prepared for retirement, both psychologically and in terms of post-esports career readiness. However, they typically possess a multitude of skills transferable to a variety of careers across various industries (Rothwell & Shaffer, 2019). Their skills are believed to transfer to other life facets and potential careers (Anderson et al., 2018; Fletcher et al., 2020; Jin, 2010; Johnson & Woodcock, 2021; Kim & Thomas, 2015; Nielsen & Hanghøj, 2019; Rothwell & Shaffer, 2019; Scholz, 2019; Scott et al., 2021; Xue et al. 2019), although some authors posit that the marketability of such experiences is somewhat limited (Ridenhour, 2019; Zhouxiang, 2017). Such skills encompass communication, self-presentation, teamwork, technological proficiency, perseverance, discipline, cognitive and intellectual aptitudes, physical abilities, critical thinking, tactical and strategic acumen, among others (Anderson et al., 2018; Karsenti, 2019; Nielsen & Hanghøj, 2019; Rothwell & Shaffer, 2019). Some suggest that players may even acquire STEM- and business-related proficiencies such as statistics, marketing, sales, and entrepreneurship, due to their continuous need for additional income sources (Anderson et al., 2018). Moreover, esports athletes themselves recognize these skills' value in their everyday lives, with social abilities being particularly appreciated (Nielsen & Hanghøj, 2019). While these skills may not directly ensure employment in esports post-retirement without further education, they can provide a foundation for continued growth.

Retired esports athletes, fortified with their skills and industry experience, can explore various career paths within the sector. These range from roles such as coach, advisor,

commentator, host, HR manager, scout, referee, community manager, lecturer, TV anchor, analyst, consultant, coordinator, and caster (Anderson et al., 2018; Jin, 2010; Johnson & Woodcock, 2021; Kim & Thomas, 2015; Ridenhour, 2019; Scholz, 2019; Scott et al., 2021; Zhouxiang, 2017) to more technical or business roles like game designer, network architect/developer, animator, writer, salesperson, producer, data scientist, and game tester (Anderson et al., 2018; Rothwell & Shaffer, 2019; Scott et al., 2021). These skills are also valued across different industries beyond esports (Smithies et al., 2020). Nonetheless, landing post-retirement esports industry jobs might hinge on an athlete's prominence, as the focus often lies with high-profile players (Jin, 2010; Zhouxiang, 2017). Not all athletes may be suited for these roles, and securing esports employment post-retirement may involve an element of luck (Meng-Lewis et al., 2022; Scholz, 2019). However, many athletes express a desire to stay within the industry, considering similar opportunities in other fields potentially more challenging to find (Lin & Zhao, 2020).

The notion of re-entry—where an individual abandons esports temporarily or shifts into a related domain—highlights the value of transferable competencies. Reflexes, strategic thinking, real-time decision-making, and digital literacy can prove valuable in many high-performance settings, from traditional sports to creative media to the aviation or military sectors (Smithies et al., 2020). By prioritizing these skills, HR and leadership teams can discover talent pools that might otherwise be overlooked.

Despite possessing a range of transferable skills, the lack of specialist knowledge or higher education can make job searching and career change challenging. Often, the main reason for the difficulty in transferring skills and knowledge between careers lies in insufficient understanding of how these can be applied to other fields or a lack of adequate career development preparation. The current research not only outlines how an esports

athletic career should progress but also identifies the key KSAOs to consider when pursuing or transitioning from this career. As said, using these findings in conjunction with ESCO (European Commission, 2020), career specialists, including coaches or counsellors, can guide prospective esports athletes on which areas to focus on in their career development and assist retiring athletes by demonstrating how their skills can be utilized in various other roles.

6.3.3. Prejudice, inclusivity and demographics in esports

Esports should, at least in theory, transcend geographic, socioeconomic, and demographic barriers. Yet, female players, minority communities, and people from less-developed regions are not only underrepresented, but also face significant hurdles ranging from online harassment to lack of infrastructure (Bihari & Pattanaik, 2023). In many African countries, for example, as some of the current participants noted, esports is very popular, although some genres more than others (e.g., sports games; fighting games; matter of gaming equipment access—high console and low PC availability). However, there is both strong within-country and between-region asymmetry in access to gaming (within Africa and between Africa and other regions), and a general lack of recognition of African esports. This leads to limited perspectives for international collaboration and competition. While these specific issues do not seem necessarily racially-rooted, similar problems are faced by Black esports community members in Western countries, especially in the USA and Canada (Fletcher, 2020; Taylor, 2012). From another perspective, women, older or disabled people usually do not suffer from lack of access to infrastructure or equipment, and yet the members of those groups often face inequality in esports. Taking women as an example, while they comprise almost 50% of players in many countries (e.g., in Poland; Bobrowski et al., 2022), their representation in esports, compared to men, is abysmal (Madden & Harteveld, 2021).

Various factors could contribute to this disparity, including a rather complex interplay of biological, psychological, and social factors (e.g., Trepanowski et al., 2024b; Eagly & Wood, 2013). Trepanowski et al., (2024b) suggest that dealing with such disparities should include fostering more positive intergroup relationships between different groups of gamers and demonstrating the inaccuracy of negative stereotypes through objective performance evidence. In the case of economic inequality or simple lack of gaming access, a more systemic approach is needed. Participants suggested that, as a start, local organisations and governments could either create facilities focusing on esports practice and education for those less fortunate and support and encourage grassroots initiatives more strongly.

Moreover, each demographic faces a different entry point into esports, leading to unique challenges and opportunities across regions. Take India and Japan for example and juxtapose them against most European countries. In the former, esports has only recently begun to take hold; in the latter, it is relatively well embedded in local cultures. Conversely, China and South Korea are often seen as highly mature markets with well-established leagues but often stringent regulations. For instance, Chinese teens can play video games only from 20:00 to 21:00 on Fridays, Saturdays, Sundays, and holidays (NPPA, 2021), limiting their chances to enter the market early on. These differences produce distinct policies, understandings of esports, and societal standards. Thus, while esports is an international phenomenon, discussing it without addressing local context is of limited value, as each region faces different opportunities and obstacles. Taking this into consideration, both researchers and policymakers should, in their future work, focus more strongly on such differences to better adjust their results to local realities.

While the stigma associated with esports has diminished with its growing popularity, some segments of society may still view it as an illegitimate or frivolous pursuit. For young esports athletes, this often involves negotiating with and educating their parents about

esports. Additionally, misconceptions about esports participation can lead to policies that restrict young people's time spent on esports, driven by fears of addiction. It is important to note, however, that gaming addiction prevalence is about 2–5% of the gamer population (Stevens et al., 2021), which is lower than the prevalence of Internet or smartphone addiction (Alimoradi et al., 2022). Moreover, there are meaningful differences between video gaming and professional video gaming, which might seem similar only on paper (e.g., Han et al., 2012). Therefore, outreach efforts targeted at parents of prospective esports athletes, or government-led campaigns to educate about esports and highlight its positive aspects, could enhance societal understanding and reduce negative stereotypes.

Concerning prejudices against specific groups within esports, organizations such as AnyKey—providing educational opportunities, enhancing visibility, and ensuring representation—should continue and scale their initiatives, as these reduce prejudice. However, support from governing bodies would likely accelerate progress. What also contributes to the reduction of prejudice, is the increasing presence of minority groups within the gaming community. With the increased number of outgroup members, playing with them becomes more likely. While playing together, a shared goal is created. Shared goals, consistent with Allport's Intergroup Contact Hypothesis (Allport et al., 1954; Pettigrew, 1998), are key to positive intergroup interactions, especially when conditions of equal status, cooperation, and institutional support are present.

6.3.4 Governance and sustainability

Although the UN’s 2030 Agenda is not directly aimed at esports, several Sustainable Development Goals (SDGs) can nonetheless guide policy and industry practices. Drawing inspiration from broader sports contexts, particularly the IOC’s ongoing efforts to align sports and esports with the SDGs (IOC, 2023), this dissertation suggests a number of areas where

such collaboration could prove for furthering social progress, environmental sustainability, gender equality and for increasing the esports industry's sustainability.

For esports, the IOC's increasing engagement—via initiatives such as the Olympic Esports Series and now Olympic Esports Games (IOC, 2023; 2024)—gives a great opportunity to blend competitive gaming with the IOC's (and UN's at the same time) broader sustainability objectives. Traditional sports faced similar sustainability problems to esports today. For example, a lack of investments and revenue instability, difficulty sustaining grassroots clubs, and athletes lacking protection and becoming jobless after retirement (e.g., Esopenko et al., 2020; Lindsey, 2008; Webb et al., 1998). Some problems still exist, but many sports have developed sustainable business models for all stakeholders involved. Since esports was included as a medal sport at the 19th Asian Games in Hangzhou, and the IOC launched the Esports Olympic Games, it can be assumed that esports is being gradually accepted by mainstream culture as a legitimate sport activity. Thus, problems in sustainable development of the esports industry fit into some of the IOC's and UN's proposals.

For example, the UN's SDGs emphasize sustainable economic growth, decent work, and reduced inequalities—all issues identified in the current interviews—which can inform policies and practices in esports. An example of an SDG relevant to esports is Goal 8—"Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" (United Nations, 2025). Increasing employment in the esports sector could contribute to Target 8.2, focusing on diversification of economic productivity, or to Target 8.3, suggesting increased support for growing enterprises via adequate policies and job creation. Following the IOC's drive to partner with local communities (IOC, 2023), esports organisations or professionals could also collaborate with municipal governments to create jobs focused on local tournament organization and education of local youth using esports. A perfect instance of such initiative is a Finland-based

project in the city of Espoo, where, using an EU-funded grant, esports was to be made more available to the local populace as a form of entertainment and digitized physical activity, while laying the foundation for future esports initiatives in the city (Leinonen & Koivula, 2024). By doing this, not only work opportunities would emerge for people interested in the esports industry, but also prospects for aspiring esports athletes would also improve.

Combined with better-tailored esports education and career guidance for esports professionals—a key recommendation from current interview participants—these initiatives could significantly increase the long-term sustainability of the esports industry and the likelihood of successful careers for those engaged. Drawing on the IOC's Olympism365 (IOC, 2023; IOC, 2025), a new strategy for SDG collaboration which focuses on enabling sports participation for people from all kinds of backgrounds and invests in sports community and grassroots development, esports stakeholders might similarly create local clubs, centers or online communities, offering training, competitions, and competency-building. To some extent, in their focus on strengthening esports participation of demographics experiencing exclusion, many organizations, such as AnyKey or Black Gamers Community, help not only realise these suggestions, but also directly work towards some of the SDGs like, Goal 5 and 10 (United Nations, 2025), both of which focus on reducing inequalities.

A few gaming- and esports-related initiatives cooperating with the UN have recently emerged, including Playing for the Planet and Esports for Development. Playing for the Planet, supported by the United Nations Environment Programme (UNEP), focuses specifically on the environmental impact—another key sustainability issue identified in this study—of video games, promoting the reduction of carbon emissions in gaming companies and organizations. Esports for Development, in turn, acts as a platform facilitating sustainable interventions in the esports industry, where interested organizations can apply for resources and support.

These initiatives demonstrate how esports can contribute to broader societal goals, such as environmental conservation and social development, thereby enhancing global sustainability while also boosting the esports industry's sustainability. In the same way the IOC partners with WHO, UNESCO, and other agencies to promote health, gender equality, and social cohesion in sport (IOC, 2023), esports stakeholders could—and should—replicate or adapt similar partnerships to focus on inclusivity, mental health support, and accessible infrastructures, which, as previously noted, are still missing in this industry (e.g., Hong & Wilkinson, 2020; 2021; Meng-Lewis et al., 2023).

Such initiatives are especially important given the high environmental impact of esports, as current participants noted. For instance, tournaments require extensive electricity usage, generate travel-related carbon emissions, and produce electronic waste. The IOC's examples—e.g., the Green Flame project to measure carbon footprints or the Sport for Climate Action framework (IOC, 2023; Sports Go Green, 2025; UNFCCC, 2025)—offer lessons on how gaming and esports stakeholders can integrate sustainability goals, reduce energy consumption, and encourage support for environmental action. With those examples in mind, the esports industry can build its own guidelines to minimize energy usage at LAN events, manage e-waste responsibly, and extend existing virtual tournament structures to cut travel emissions. Initiatives like Playing for the Planet exemplify how esports and gaming companies can do just that.

Finally, bridging the gap between esports organizations, educational institutions, and governing bodies can create a more stable, supportive, and sustainable environment. Collaborative pilot programs—where regional governments allocate grants to schools or gaming hubs—could expand grassroots esports, nurture young talent, and simultaneously promote education in areas such as IT, language skills, event management, and related fields. Likewise, standardised policies at the regional or national level—covering everything from

player welfare to anti-doping measures—would bring clarity to the industry, strengthen athlete protection, and facilitate cross-border competitions. In return, esports provides job creation, tech innovation, and cultural engagement opportunities for local communities, while facilitating development of young people and allowing for better chances at success in the future, regardless of the career path they wish to undertake.

6.3.5 Beyond esports

Boundaryless, protean careers are increasingly common. In many areas of gig or freelance work, workers juggle multiple clients, jobs, projects, or employers, while their career ladders are not bound to a single organization (or even occupation). Such workers are expected to exhibit self-directedness, often guided more by passion or personal values (e.g., Arthur & Rousseau, 1996; Briscoe & Hall, 2006) rather than by formal intra-organizational promotion paths. For example, a freelance designer may choose projects based on interest, not prestige, and a software developer might move between startups and contracts to learn new skills. Such boundaryless careers still involve some kind of progression (better clients, higher pay, or more responsibility over time), but it happens on the individual's terms. Thus, while stages suggested by the eSCM could be applied here, surely their specific contents would depend heavily on career types; for instance, mastery could simply indicate having well-developed skills and being recognized in the case of an artistic career. Modern career theories echo this shift to boundarylessness, as instead of lifetime tenure, most careers today involve continuous change and non-linear paths (e.g., Bright & Pryor, 2013).

There are many similarities between esports athleticism and other contemporary career pathways, reaching beyond other athletic careers. For example, people working in the creative industries, such as artists, musicians, and designers, who often work in short-term contract arrangements (similarly to esports athletes, whose work tends to be league-,

tournament-based), lack job security and various benefits, while career growth comes rather from reputation and skills, and not scaling a specific ladder (e.g., Hennekam & Bennett, 2016; Mangset & Kelppe, 2025). From the perspective of more contemporary career paths, this could also apply to streamers, YouTubers and similar creators (e.g., Skardzius, 2020), who esports athletes also often are. Esports athletes careers bear similarities to freelancers or gig workers, such as Uber drivers, who experience uncertainty and instability, additionally facing the difficulties of being an independent contractor, while also often lacking formal policy protection (e.g., Abkhezr & McMahon, 2022; Kaltner, 2018; Rani & Gobel, 2022)

Considering the above, workers across contemporary careers can benefit from flexibility and proactivity, with self-directedness as their central motif. Adding to this, the eSCM shows that contemporary careers require flexibility, diversification of skills, support systems, and adequate context. Not everything can be affected or changed by the individual. It will not always be possible to move to a different country and changing one's demographic characteristics is also unlikely, thus there is a need to focus on what can be changed and developed. This includes building transferable skills, lifelong learning, and finding or creating support networks. Improving one's health, especially mental health, also remains key, developing coping skills, resilience, and life satisfaction, which can help with burnout, stress, and other difficulties experienced during a career (e.g., Mahmoud & Rothenberger, 2019). Thus, eSCM-C based approach might be relatable to other areas of expertise or types of careers, as it seems at least some central KSAOs overlap. Nevertheless, it should be noted, that eSCM-C is still an esports athleticism-focused model, thus direct translation into other occupations might distort their images. In consequence, it may be prudent not to directly copy the model, but follow the approach presented.

The eSCM, by emphasizing staged progress and career variability, could similarly guide freelancers and creatives. For instance, educators might teach workers across sectors to

plan for irregular income or for multiple career changes. Considering the current job market, it is also important to enhance curricula with possibly many transferable competencies. Nowadays, keeping a lifelong job is not as likely as it used to be(e.g., Bright & Pryor, 2013), thus the individuals need to be as prepared for a sudden career change as possible. Thus, again, eSCM could help in this case, by guiding educators into the areas that need development, regardless of a career. Of course, game-abilities for instance would remain specific to gaming-related careers, but legal literacy, psychological resilience, or coping skills would likely remain universal (e.g., Duggan et al., 2022). All in all, the eSCM emphasis on ongoing development of competencies has a wider relevance, with a goal of developing a protean career mindset, where individuals take responsibility for their development, seeking meaningful work rather than relying on employer-defined advancement. Workers themselves could follow this model, adapting it to their careers.

In sum, the eSCM, while positing that specific career progression can be overall expected, supports the shift in the literature towards boundarylessness. It suggests that workers can benefit from developing a wide range of career competencies, as these will smooth career transitions. It also acknowledges that careers, regardless of their type, can be influenced by numerous external and contextual factors that can either facilitate their development or impede it. By translating lessons from esports to other domains, educators, policymakers, and organizations can better equip people for the volatile career landscapes of the 21st century.

6.4 Limitations and future directions

As with any scientific work, this one must also acknowledge several limitations that warrant discussion. First, concerning Study 1, Firstly**,** the scope of the review was potentially limited by the exclusion of non-English publications. Future research should consider exploring

regional literature to gain a better understanding of esports athletic careers across different cultural contexts. This is especially important considering the later feedback from the esports stakeholders, who, coming from different cultural and ethnic backgrounds, highlighted how each of those changes the way a career is experienced by an individual, regardless of whether it is an athletic career or a different one. Secondly, due to the nature of scoping studies, the quality of the included articles was not evaluated (Arksey & O'Malley, 2005; Tricco et al., 2018), potentially incorporating items of questionable quality. In future studies, it would be prudent to conduct a different type of literature review, that focuses on quality of research, while narrowing the scope. Thirdly, although the review was extensive, it focused solely on esports and did not consider the broader context of video gaming. It is likely that if this dissertation had explored the wider context, it would have identified even more specific KSAOs related to successful career progression.

In Study 2 the sample was not representative, consisting mostly of video game players, rather than non-players. While this is not a fatal issue, it limits the study's generalisability. Therefore, this study does not allow to make inferences about the wider population's opinions, but only about those of the gamer population. Future studies should consider including a more diverse sample, particularly individuals disconnected from the gaming community. However, as the percentage of people engaged in video gaming increases, finding such a sample becomes increasingly challenging. Furthermore, the gender distribution in the current sample was skewed, with a majority of participants being men. This might be attributed to the method of participant recruitment, primarily utilizing Facebook and Reddit, social media platforms known for their predominantly male user base (Datareportal, 2023; Statista, 2023). Additionally, video gaming spaces and discussion forums are often perceived as stereotypically masculine spaces (Kendall, 2000; Salter & Blodgett, 2012) which are unwelcoming to women, further contributing to the

underrepresentation of women in the sample. In addition, the study mostly included participants from North America and Europe, thus limiting generalisability to other regions. Similar issues arose in Study 3; however, it was partly mitigated by recruiting targeted sub-populations. Thus, the sample from Study 3 should be somewhat closer to the actual esports industry stakeholder demographic profile. Nevertheless, other future esports related studies should consider samples that are more balanced both region-wise and gender-wise.

In addition, Study 2 relied on a method that precludes a deeper understanding of the issue. Specifically, in open-ended questionnaires, follow-up questions cannot be used to expand upon the provided content, as there is no direct interaction with the participant. Furthermore, in line with this dissertation's objectives, views of professional esports athletes and industry members were not included in the analysis. Consequently, some themes that were covered in previous studies based on esports professionals and experts are not well reflected in these results. This was not a big issue, however, as it was addressed in Study 3. Future research should consider employing both experts' views and non-expert' views in an in-depth manner (Cranmer et al., 2021), and make a comparison between the two groups.

Finally, certain regional perspectives were underrepresented, and some key stakeholders, such as major developers and corporate sponsors, were less responsive to participation invitations. Future studies should make additional efforts to engage these groups to ensure a more rounded perspective of the industry. This model requires longitudinal and qualitative validation to fully claim its correctness, thus the future studies should focus on this issue. For instance, a set of recommendations based on the eSCM could be provided to prospective esports athletes, who will then pursue their careers. Comparing their career outcomes, after a few years, to athletes who did not receive such recommendations, should allow testing of the model's real-life applicability.

7. Conclusions

This dissertation investigated the career trajectories of esports athletes and proposed a novel model—the esports athletic career model (eSCM)—of esports career development that addresses a previously unmet need for a comprehensive framework in understanding these career trajectories. While passion and skills often facilitate this career, this work has shown that its sustainability and overall career path depend heavily on the context in which this career is set, as well as various personal and structural constraints. The current research identified systemic challenges, including governance- and education-related issues, that could be addressed if esports careers are to become viable and enduring. Together, the three studies reported herein establish an empirical and theoretical foundation for supporting those who aspire to become esports athletes.

The research followed a mixed-methods design, combining a scoping literature review with two qualitative studies (open-ended survey and stakeholder interviews). The literature review mapped the existing research and suggested an initial framework that resembled the Holistic Athletic Career model (Wylleman & Lavallee, 2004). Subsequent studies allowed for understanding professional and amateur perspectives on esports athletic careers and to juxtapose the initial model against these. This led to a refined and reshaped framework, the two-part Esports Athletic Career Model (eSCM). The eSCM-P (path model) describes the stages of esports athletic careers, while the eSCM-C (competency and characteristics model) specifies the key knowledge, skills, abilities, and "other characteristics" (KSAOs) needed to succeed. This structure not only reflects the specific career stages of initiation, development, mastery, and discontinuation, but also recognizes the recursiveness and non-linearity of esports athletic careers. It further highlights the ways in which contextual influences—such as region, gender, educational background, and legal constraints—affect the opportunities and outcomes available to athletes.

Theoretically, this dissertation contributes to career development research by attempting to integrate linear and non-linear career perspectives. The eSCM demonstrates how typical and idealistic stages can coexist with unexpected career shifts, aligning with contemporary approaches such as the Chaos Theory of Careers or protean and boundaryless career models. It also aligns well with traditional sports research, particularly the Holistic Athletic Career model. The current work also addresses the distinctive characteristics of esports athletic careers: early specialization, ambiguous legal and social recognition, or limited financial and institutional support. Overall, this shows the interplay between personal characteristics and the wider contextual factors in career development.

From a practical perspective, the eSCM offers guidelines for esports industry stakeholders and various career specialists. For athletes and coaches, it identifies the competencies most crucial at different stages and provides a framework that allows the prediction of career transitions, including retirement or re-entry. For educators, it points to the need for esports-specific curricula and training that combines technical and gaming expertise with broader life and career skills. For policymakers and organizations, it highlights the importance of building inclusive structures and support systems that make careers both accessible and sustainable. In each case, the model provides a tool for improving the professional and personal development of esports athletes.

On one final note, the eSCM shows how contemporary careers in emerging professions can be understood as both structured and unpredictable, linear and recursive, all at the same time. It offers a framework that bridges competencies, contextual influences, and different types of support to explain how esports athletes develop and transition through and out of their careers. It demonstrates that the challenges and opportunities found in esports athleticism reflect the modern work landscape, with careers becoming increasingly more

boundaryless, protean, precarious, and personalized. As such, the eSCM not only advances esports research but also contributes to broader discussions on career development. Ultimately, this work lays a foundation for better supporting those pursuing esports athletic careers, indicating that, with informed interventions, these contemporary career paths can, indeed, become more sustainable.

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Annex

Appendix 1.

Example search code used in the literature review (SCOPUS)

(TITLE-ABS-KEY (e-sport*) OR TITLE-ABS-KEY (esport*) OR TITLE-ABS-KEY ("professional player" AND "video gam*") OR TITLE-ABS-KEY (pro-gam*) OR TITLE-ABS-KEY ("competitive gaming") OR TITLE-ABS-KEY ("electronic sport*") OR TITLE-ABS-KEY (e-athlete) OR TITLE-ABS-KEY ("digital sport*") OR TITLE-ABS-KEY ("virtual sport*") OR TITLE-ABS-KEY ("cybersport") OR TITLE-ABS-KEY ("virtual competition") OR TITLE-ABS-KEY ("gaming career*") OR TITLE-ABS-KEY ("professional gaming") OR TITLE-ABS-KEY ("professional gamer*")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp") OR LIMIT-TO (DOCTYPE , "re") OR LIMIT-TO (DOCTYPE , "sh") OR LIMIT-TO (DOCTYPE , "ch") OR LIMIT-TO (DOCTYPE , "bk")) AND (EXCLUDE (PUBYEAR , 1971) OR EXCLUDE (PUBYEAR , 1970) OR EXCLUDE (PUBYEAR , 1969) OR EXCLUDE (PUBYEAR , 1968) OR EXCLUDE (PUBYEAR , 1967) OR EXCLUDE (PUBYEAR , 1966) OR EXCLUDE (PUBYEAR , 1965) OR EXCLUDE (PUBYEAR , 1964) OR EXCLUDE (PUBYEAR , 1958) OR EXCLUDE (PUBYEAR , 1957) OR EXCLUDE (PUBYEAR , 1956) OR EXCLUDE (PUBYEAR , 1951) OR EXCLUDE (PUBYEAR , 1950) OR EXCLUDE (PUBYEAR , 1949) OR EXCLUDE (PUBYEAR , 1946) OR EXCLUDE (PUBYEAR , 1943) OR EXCLUDE (PUBYEAR , 1942))

Appendix 2.

Questionnaire used in study 2

Dear all

Our team at the Gamification Group at Tampere University in Finland and the Faculty of Psychology and Cognitive Science at Adam Mickiewicz University in Poznań, Poland is looking into the issue of esports careers. We would like to invite you to participate in a short survey. The survey consists of a few questions about **esports and esports-related careers**. At the end of the survey, you will also be asked to complete a short questionnaire on your demographics and gaming habits. The entire survey should take no longer than **10 minutes**.

We would like to emphasize that:

- the survey is **fully anonymous**, and all data collected will be used solely for statistical and content analyses,
- Your participation in the survey is **voluntary, and you may withdraw from it at any time** (even after the survey has started) without giving any reason.
- You may ask for your data to **be deleted even after you submitted the answer**
- After 5 years your data will be removed altogether, barred for anonymised forms submitted alongside scientific publications in open repositories
- We are committed to ensuring that the rights of research participants are respected and that the high standards of research are maintained. **We will make every effort to ensure the security of your research results**.

Your decision to participate in this study means that:

1. You understand the nature and scope of your participation in this study,
2. You understand that you may withdraw from participation in this study at any time,
3. You have read the above statement and agree to participate in the study under the specified conditions.

If you would like to learn more about the results of the survey, you may also contact the project manager: Radosław Trepanowski, MA (radtre@amu.edu.pl).

By proceeding further, you agree to participate.

Main questionnaire

1. What is esports to you?
2. What is an esports career to you? How do you understand esports careers?
3. What do you think can be described as success in esports?
4. How do you think such success in esports as you described above can be achieved?
5. What do you think can be described as success in an esports career?
6. How do you think such success in esports careers as you described above can be achieved?
7. What do you consider a failure in esports?
8. What do you consider a failure in an esports career?

Demographics

1. Gender
    a. Man
    b. Woman
    c. Prefer not to say
    d. Non-binary
2. Age
3. Country of residence
4. Mother tongue
5. Name the 3 games you play most often
6. Name the 3 esports games you play most often (An esports game is a game where you compete against others and where tournaments are held)
7. How many hours a week do you spend playing video games?
8. How many hours a week do you spend playing esports games?
9. How long have you been playing esports games? (please specify in years and/or months)
10. How much time per week do you spend watching esports? (give in hours)
11. How are you involved in esports?
    a. Professionally
    b. I participate in tournaments, but I do not play professionally
    c. Amateur
    d. Not applicable
12. Have you participated in tournaments
    a. Yes
    b. No
13. Are you currently playing on an esports team?
    a. Yes
    b. Yes, but not on a professional team
    c. No

Appendix 3

Consent for participation

CONSENT FORM FOR PARTICIPATION IN RESEARCH

1. This research aims to explore the key facets of esport athletic careers as well as gather information on the career progression of esport athletes. The results of this study will be used in creating scientific publications and guidelines for potential esport athletes aiming to start such a career path.
2. You will be asked to take part in an interview, which will last approximately one hour. The interview will be conducted virtually and recorded.
3. All data collected during this research will be stored securely and will be anonymized to ensure the privacy and confidentiality of participants. Any identifiable information (like names, addresses, workplace etc.) will not be disclosed or linked to the findings. Information such as team names, nicknames or company names will be changed in the publications based on the results of this interview.
4. Participation in this research is entirely voluntary. Participants can choose to withdraw at any time without any negative consequences. If a participant decides to withdraw, any data already collected from them will be destroyed upon request.
5. The researcher might publish anonymised versions of the interview in the transcribed, written form as a separate paper. However, the un-anonymised results will be available only to the principal researcher (Radosław Trepanowski) and co-authors (Juho Hamari, Wu Li; Gamification Group, Tampere University, Finland)
6. For any questions or concerns related to the research, participants can contact Radosław Trepanowski at radtre@amu.edu.pl.

Radosław Trepanowski, M.Sc.

Faculty of Psychology and Cognitive Science

Adam Mickiewicz University

Szamarzewskiego street 89, PL-60 – 568 Poznań, Poland

Consent:

I, , have read the details of the research study as provided above. I understand the procedures, conditions of my participation, and possible risks. I hereby agree to participate in this research study.

Appendix 4

RODO form

Before you proceed with submitting your contact details, please familiarize yourself with the following information regarding personal data protection:

1. The administrator of your personal data is Adam Mickiewicz University in Poznań, located at ul. Wieniawskiego 1, 61-712 Poznań.
2. The data administrator has appointed a Data Protection Officer – contact via email: iod@amu.edu.pl.
3. Your personal data (name, email address, phone number) will be processed for the purpose of conducting a scientific project.
4. Your personal data will be processed for a period of 6 months (after which they will be deleted).
5. Your personal data will not be shared with third parties. Access to your data will be granted only to individuals authorized by the Administrator to process them within the scope of their professional duties, i.e., members of the research project team.
6. You have the right to access the content of your data, subject to legal regulations, the right to rectify, delete, or limit processing, the right to data portability, the right to object to processing, and the right to withdraw consent at any time.
7. You have the right to lodge a complaint with the supervisory authority – the President of the Personal Data Protection Office, ul. Stawki 2, 00 – 193 Warsaw.
8. Decisions regarding your personal data will be considered on an individual basis. No decisions will be based solely on automated processing, including profiling.

Appendix 5.

Interview outline

The list below contains all items included in the interview outline. However, not every item was used explicitly in the reports, nor was every participant asked every question. This is expected, as the interviews were semi-structured. Participants often addressed specific items while responding to other questions, and we asked context-specific follow-up questions to deepen understanding of particular topics.

1. **Introduction and socio-demographics**
    a. Please briefly introduce yourself
    b. How old are you?
    c. What is your sex? What is your gender?
    d. What do you do?
    e. What is your ethnicity?
    f. What games or genres do you play?
    g. If you played professionally, what games were those? For how long?
2. **Industry and work expertise**
    a. What is your position?
    b. What were you doing before your current occupation?
    c. How long have you been working in the industry, if at all?
    d. What do you plan to do in the future?
    e. What is your area of expertise?
    f. Why are you working in the industry?
3. **Understanding esports industry and its stakeholders**
    a. Who do you believe are the main stakeholders in the esports industry?
    b. How would you define an esport athlete?
    c. Where to draw the line between professional and non-professionals?
    d. How are esport athletes perceived by your country?
4. **Defining esports athletic careers, success, and failure**

a. How would you define an esport athletic career? What comes to your mind when you think about this career?
b. If you tried to distinguish some stages that this career follows, what would those be?
c. What are the main areas of esport athletic development? That is, what abilities/ knowledge and skills athletes develop throughout their career development?
d. What does a successful esport athletic career look like? How would you define success in esports and esport athletic careers?
e. What specifically is necessary to achieve success in esport athletic careers?
f. What opportunities this career presents? Is there anything to gain thanks to these careers?
g. How do you define failure in esports and esport athletic careers? When can this career be considered as a failure?
h. What specifically can lead to failure?
i. What problems or issues do the athletes experience throughout their careers?

5. Presentation of the initial eSCM (Figure 9)

6. Understanding esports performance

a. What do you understand as esports performance?
b. Please list out the most important factors that influence or determine esports performance.
c. Why are those factors important?
d. Are those factors specific to a given game or equally important regardless of the game?
e. Can you classify those factors somehow?

7. Sustainability of the esports industry

a. Does the esports industry need changes?
b. What do you believe can be done to improve the esport athletes situation or working conditions / industry sustainability?