From rising stars to early retirees: the accelerated career trajectories of League of Legends esports players

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Abstract

Purpose – This study aims to investigate the accelerated career trajectories of League of Legends (LoL) esports players, identifying specific factors that accelerate early peak performance and hamper long-term sustainability in esports.

Design/methodology/approach – This study combines statistical analysis using generalized Additive models and Gaussian peak analysis of 4,159 global players with semistructured interviews of five former professionals/coaches in LoL esports. Publicly available curriculum materials from eight leading Korean esports academies were also reviewed to contextualize training and development practices.

Findings – Quantitative results indicate a rapid performance ascent peaking near age 21, followed by a swift decline. Qualitative insights reveal that burnout, role inflexibility and limited mental health support exacerbate this decline, while academies focus predominantly on immediate competitive success rather than holistic career sustainability. Together, these findings support a five-stage career model (Entry, Growth, Maturity, Decline and Transition) tailored to the accelerated nature of esports.

Practical implications – Stakeholders can use these insights to implement structured transition programs, integrate mental health resources and promote role adaptability, ensuring healthier, more sustainable career pathways for esports athletes.

Originality/value – By merging statistical modeling with in-depth narratives, this study provides a novel empirical framework for understanding esports player development and retirement. It refines and extends Salo's (2017) framework by incorporating structured academy-based development and postcareer transitions, offering data-driven recommendations for teams, academies and policymakers seeking to improve player welfare and career longevity.

Keywords Career trajectory, Esports, League of Legends, Athlete development and management, Sustainable esports teams

Paper type Research paper

1. Introduction

Esports has rapidly evolved from a niche hobby into a global industry over the past two decades, with Korea at the forefront of this transformation. The country's deep-rooted gaming culture, supported by high-speed internet infrastructure, proactive government policies and a well-established competitive ecosystem, has made Korea an esports powerhouse (Jin, 2010; Lee and Schoenstedt, 2011; Seo, 2013; Goetomo, 2016; Li, 2017;

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Scholz, 2019; Kim and Kim, 2022). Korean teams have won 9 of the 14 League of Legends (LoL) World Championship titles by 2024 (Kim, 2023; Stewart, 2024), reflecting the success of Korea's player development pipelines. However, despite these competitive achievements, LoL players experience notably short careers, often retiring by their mid-20s – significantly earlier than athletes in most traditional sports (Taylor, 2012; DiFrancisco-Donoghue *et al.*, 2019).

This compressed career trajectory is shaped by multiple factors, including the demand for lightning-fast reflexes, continuous meta shifts (changes in optimal strategies, character viability and game mechanics that require constant adaptation from players), grueling training regimens and a lack of structured career transitions (Holden *et al.*, 2017; Hong *et al.*, 2023). While structured models of athlete development exist in traditional sports, they do not fully account for the accelerated entry, peak and exit patterns unique to esports. Existing frameworks, such as Wylleman and Lavallee's (2004) lifespan model and Stambulova *et al.*'s (2009) career transition model, provide structured athlete progression stages, yet they primarily address long-term, gradual transitions in traditional sports. By contrast, esports players frequently enter professional competition in their teenage years, peak in their early 20 s and retire before they have had the opportunity to transition into alternative roles within the industry.

Prior research has attempted to model esports careers, most notably Salo's (2017) four-stage esports career transition framework. This model outlines the phases of initiation, development, mastery and discontinuation, recognizing that esports careers are shorter than traditional athletic careers. While Salo attributes this compression primarily to the intensive cognitive demands and rapid technological changes in esports, his framework does not fully explore the physiological factors, team organizational structures and cultural aspects that also accelerate career trajectories. Furthermore, it does not sufficiently account for region-specific developmental structures or organized training programs, particularly in Korea, where academy-based pipelines have become integral to professional esports (Goetomo, 2016; Gen.G, 2024). In addition, existing models lack empirical validation using quantitative career trajectory data, limiting their ability to predict performance sustainability and retirement trends in a structured manner.

To address these gaps, this study integrates quantitative performance modeling with qualitative career insights to develop a more comprehensive understanding of esports career sustainability. Specifically, Section 3.2 examines 4,159 LoL players across 1,605 competitions (2010–2024) to track age-based performance trends. This is supplemented with semistructured interviews with former professionals and coaches, as well as an analysis of academy training curricula to contextualize player development pathways (Section 3.3). By synthesizing these perspectives, Section 4 presents the findings, while Section 5 introduces a five-stage esports career model – Entry, Growth, Maturity, Decline and Transition – tailored to the accelerated nature of competitive gaming. Section 5 also provides practical implications for stakeholders across the esports ecosystem. This research provides practical implications for stakeholders across the esports ecosystem. Teams, academies and policymakers can implement structured transition programs, integrate mental health resources and promote role adaptability to foster healthier, more sustainable career pathways.

Beyond immediate reforms, this study contributes to the broader discourse on esports career management and player welfare, bridging the gap between athletic career theories and empirical esports performance trends. Furthermore, it aligns with the United Nations Sustainable Development Goals, particularly Goal 3 (Good Health and Well-being), by advocating for enhanced mental health support and structured career transitions for esports players and Goal 8 (Decent Work and Economic Growth), by promoting sustainable career management strategies that improve long-term employment opportunities within the esports industry (Colglazier, 2015).

2. Literature review

2.1 Career progression in traditional sports and esports

Athlete career development has been widely studied in traditional sports, where structured models emphasize progression through clearly defined stages. Wylleman and Lavallee (2004) introduced a lifespan model that integrates developmental, competitive and retirement phases, accounting for both psychological and social transitions. Stambulova *et al.* (2009) further refined this framework, outlining key transitions such as early development, junior-to-senior transition, peak performance and postretirement adaptation. These models emphasize the importance of structured training programs, career counseling and transition support, helping athletes navigate the demands of professional competition.

However, applying these frameworks to esports presents unique challenges due to the industry's accelerated career trajectory. Unlike traditional sports, where athletes progress through amateur, collegiate and professional levels over a decade or more, esports players often bypass formal developmental pathways, transitioning directly from solo queue rankings or amateur tournaments into professional contracts during their teenage years (Taylor, 2012). The absence of centralized regulatory bodies – akin to FIFA or the IOC – further results in fragmented career support systems, where career longevity depends largely on individual teams and organizations (Holden *et al.*, 2017).

Recognizing these challenges, Salo (2017) proposed a four-stage esports career transition framework, consisting of:

- Initiation – Early exposure to gaming, typically starting in childhood through recreational play.
- Development – Skill refinement and transition to structured competition, often self-directed rather than institutionally guided.
- Mastery – Full-time professional commitment, usually occurring in the late teens or early 20s, characterized by peak competitive performance.
- Discontinuation – Retirement from professional competition due to performance decline, burnout or external factors, often without structured transition support.

While Salo's model highlights the compressed nature of esports careers, it does not fully account for structured player development programs, particularly in Korea, where professional teams operate academy systems that integrate early training, character education and physiological conditioning (Goetomo, 2016; Gen.G, 2024). Family support structures also play a crucial role in these early development stages, with research showing that parental involvement significantly impacts player development trajectories. Studies by Meissner (2024), Hong *et al.* (2022) and Schneider *et al.* (2017) have demonstrated that parental support – ranging from emotional encouragement to financial backing – often determines whether talented players can pursue professional careers. Korean esports academies provide formalized training environments, resembling youth academies in traditional sports but adapted for esports. This structured development system contrasts with Western esports, where players frequently enter the scene through grassroots communities and online play. This study refines Salo's model by incorporating structured academy-based development as a key stage in esports career progression.

In addition, Salo's framework does not differentiate postretirement trajectories. Many players transition into coaching, content creation or management, while others struggle with financial instability and career reintegration challenges (Tang, 2018; Xue *et al.*, 2019). A more comprehensive career model is needed to account for these diverse pathways and provide a clearer roadmap for players exiting competition.

2.2 Cognitive and physiological aging in esports

One of the defining characteristics of esports careers is early peak performance. Research in cognitive psychology suggests that reaction time, a key determinant of in-game performance (Piatysotska *et al.*, 2024), peaks in early adulthood and declines with age (Boot *et al.*, 2011; Thompson *et al.*, 2014). A study of StarCraft II players found that response efficiency begins declining at around age 24, reinforcing the argument that esports players face earlier performance ceilings than traditional athletes (Thompson *et al.*, 2014). However, age-related decline in esports is not purely a function of reaction speed.

Performance longevity in esports is also influenced by strategic adaptability, game meta shifts and workload management (Donaldson, 2017). While younger players may have superior mechanical execution, older players often compensate through game knowledge, communication and team coordination (Freeman and Wohn, 2019). Research on expertise development suggests that deliberate practice and cognitive flexibility can mitigate some effects of aging, allowing experienced players to maintain high performance through efficient decision-making and game sense (Ericsson *et al.*, 1993; Baker *et al.*, 2005).

Unlike traditional sports, where athletes' roles are often adapted to extend career longevity (e.g. a football player shifting from an attacking role to a playmaking role), esports lacks well-defined pathways for role specialization with age. Studies show that different in-game roles require varying levels of cognitive load and execution precision (Donaldson, 2017), but empirical research on how role adaptation affects esports career longevity remains limited. Some players may extend their careers by transitioning into less mechanically demanding roles within team compositions, yet teams often favor younger talent, reducing opportunities for veteran players to remain in the scene. This raises an important question: does role specialization effectively extend esports careers, or does the industry's structural preference for young talent override such strategies?

This study builds upon these findings by examining how age-related performance trends align with in-game role preferences and whether role specialization can realistically extend career longevity in professional LoL.

2.3 Psychological and physical challenges in career sustainability

Professional esports athletes face intense psychological and physical stress, significantly impacting their career longevity. Psychological challenges include high burnout rates, anxiety and performance pressure, exacerbated by demanding practice schedules and intense public scrutiny from fans, sponsors and teams (Pedraza-Ramirez *et al.*, 2020; Poulus *et al.*, 2024). Research on Korean esports players found that basic psychological needs satisfaction is a strong predictor of burnout risk, suggesting that inadequate career support systems contribute to mental health struggles (Hong *et al.*, 2023). In addition, the lack of standardized mental resilience training across teams and regions means that some players receive minimal psychological support (Fletcher, 2018).

Esports players also experience significant physical strain, particularly due to prolonged screen time, repetitive hand movements and poor posture. Studies link competitive gaming to increased risks of musculoskeletal disorders, carpal tunnel syndrome and vision impairment (DiFrancisco-Donoghue *et al.*, 2019; Zwibel *et al.*, 2019; Lam *et al.*, 2022). Despite these risks, esports training rarely incorporates structured physical exercise programs, leaving many players vulnerable to long-term health complications (Kari and Karhulahti, 2016). Research suggests that lifestyle modifications, including proper nutrition and physical conditioning, could improve cognitive performance and career longevity (Goulart *et al.*, 2023), yet implementation remains inconsistent across organizations.

Most importantly, unlike traditional sports leagues that offer structured career transition programs, esports lacks industry-wide postretirement support. Many professional players face financial instability and career uncertainty after retiring from competition, as their skills do not always translate directly to other industries (Funk *et al.*, 2018). While some players transition into coaching, broadcasting or content creation, these opportunities remain highly competitive and are not guaranteed career pathways (Tang, 2018; Xue *et al.*, 2019). Research on post-esports career adaptation in Korea found that many players experience identity crises and difficulty reintegrating into nongaming careers, highlighting the need for better career transition support systems (Hong and Hong, 2023).

2.4 Gaps in literature and research questions

Despite growing academic interest in esports career trajectories, significant gaps remain. Existing models, such as Wylleman and Lavallee (2004), Stambulova *et al.* (2009) and Salo (2017), provide foundational insights, yet they lack empirical validation in the esports context. Most studies focus on general career trends rather than systematic analyses of structured training systems, particularly in Korea's academy-based development model.

In addition, prior research has not adequately examined how role specialization influences career longevity or whether teams support late-career adaptation strategies. Postretirement transitions also remain underexplored, with limited research on how players successfully navigate career exits.

To address these gaps, this study proposes a five-stage esports career model that integrates structured player development, cognitive performance trends and postretirement transitions. The following research questions guide this study:

RQ1. What are the key career trajectory stages for professional LoL players?

RQ2. How do cognitive and strategic factors influence career longevity in esports?

RQ3. What challenges contribute to early retirement, and how can esports organizations implement sustainable career management programs?

3. Methods

3.1 Research design

This study uses a mixed-methods design, integrating quantitative statistical modeling with qualitative interviews and academy curriculum analysis to provide a comprehensive understanding of career trajectories in LoL esports. By combining quantitative analysis of 4,159 players with semistructured interviews and curriculum reviews, this research captures both broad statistical trends and individual career experiences, ensuring a multi-dimensional approach to analyzing career sustainability in esports.

The quantitative analysis models longitudinal data on player performance, prize earnings and career duration, identifying peak performance trends and decline rates. The qualitative interviews with former professionals and coaches provide in-depth insights into the challenges of career progression, role specialization, burnout and postretirement transitions. Finally, the academy curriculum analysis contextualizes early career development, revealing how structured training programs influence long-term player sustainability. Together, these methods offer a comprehensive perspective on the challenges esports professionals face throughout their careers.

3.2 Quantitative analysis

3.2.1 Data collection and preprocessing. This study collected age and prize money data from publicly available databases, including Esports Earnings (www.esportsearnings.com/), and Leaguepedia (https://lol.fandom.com/wiki/League_of_Legends_Esports_Wiki), both of which provide extensive records of professional LoL players and their tournament performances. Only tournament with verified prize pool information and player rosters, including international leagues and major and regional leagues, were included in the analysis. The data sets were cleaned and verified by cross-referencing official team announcements, player interviews and secondary database sources to resolve inconsistencies. Players with incomplete or unverifiable birthdate records were excluded to maintain accuracy in age-based analysis. The final data set includes 4,159 professional LoL players who participated in 1,605 tournaments from 2010 to 2024.

3.2.2 Statistical modeling and analysis. The study implements a comprehensive statistical approach combining generalized additive models (GAMs), normality testing and Gaussian peak analysis to examine career trajectories. GAMs were selected specifically because they provide a flexible, nonparametric approach for modeling nonlinear relationships without requiring *a priori* assumptions about the shape of the curve – a critical advantage when examining esports careers where the trajectory shape was previously unknown (Wood, 2017). Thin-plate regression splines were used for smoothing, and the smoothing parameters were optimized via generalized cross-validation to reduce overfitting.

Our implementation used Python 3.8 and used the *pygam* package (version 0.8.0) for GAM analysis. The model was specified by applying a spline term with 10 basis functions (*n_splines = 10*) and a spline order of three (*spline_order = 3*), which controls the smoothness of the fitted curve. These parameters were selected based on cross-validation to optimize the trade-off between model fit and generalizability.

To validate the statistical assumptions and ensure the robustness of our findings, we conducted multiple normality tests on the GAM residuals, including the Shapiro–Wilk test for normality, D'Agostino's K^2 test for assessing skewness and kurtosis and the Anderson–Darling test for evaluating the fit of the probability distribution. In addition, Gaussian peak analysis was implemented using curve fitting techniques to precisely identify career peaks and provide standard deviation measurements indicating the typical range of high-performance years.

Visual representations of these findings include the temporal patterns of both prize money earnings and player participation with GAM regression curves. Also, a detailed statistical validation of the prize money distribution patterns, combining Gaussian peak analysis with normality diagnostics through Q-Q plots and residual histograms, were presented. The analysis was implemented using Python's scientific computing stack, with pygam for GAM modeling, scipy.stats for statistical testing, scipy.optimize for Gaussian curve fitting and matplotlib for visualization.

3.3 Qualitative interview with esports professionals

3.3.1 Participants and sampling. Semistructured interviews were conducted with five experienced professionals from the Korean LoL scene. Participants were selected using purposive sampling based on specific criteria:

- a minimum of three years of professional experience in the Korean LoL ecosystem;
- experience in either playing or coaching roles within the LCK (LoL Champions Korea); and
- willingness to provide detailed insights about career challenges and transitions.

This selection strategy ensured participants had sufficient experience to reflect on complete career cycles while representing diverse perspectives within the ecosystem. The final sample included players, academy coaches and professional team coaches in Table 1. This selection enables an in-depth exploration of both the active competitive phase and the postretirement transition process.

3.3.2 Interview protocol. A semistructured interview format was chosen to balance consistency across discussions with the flexibility to explore personal experiences in detail (Rubin and Rubin, 2011). The interviews focused on four main themes:

(1) early career and pathways into professional play;
(2) peak performance experiences;
(3) burnout and mental health challenges; and
(4) retirement or transition from active competition.

Probing questions encouraged participants to reflect on motivational factors, training regimens and the obstacles that shaped their career decisions. Interviews typically lasted between 30 and 60 min and were recorded with permission; the audio files were later transcribed *verbatim* for analysis. All interviews were conducted in Korean, as it was the native language of all participants, and subsequently translated into English by two bilingual researchers with expertise in esports terminology. Each participant provided informed consent, agreeing to confidentiality and their right to withdraw from the study at any time.

3.3.3 Thematic analysis. Interview transcripts were analyzed using thematic coding (Braun and Clarke, 2006). Following Braun and Clarke's six-phase approach, the data was first familiarized through repeated reading of the transcripts. Next, initial codes were generated by systematically identifying meaningful segments of text relevant to research questions. These codes were then collated into potential themes, which were subsequently reviewed and refined through an iterative process. Theme definitions were developed to ensure internal coherence and distinctiveness, and finally, compelling extract examples were selected to illustrate each theme. Initial coding involved highlighting segments of text relevant to the research aims, such as mentions of training structure, experiences with role adaptation or postretirement planning. These codes were then grouped into broader themes, including "burnout and mental stress," "organizational support structures" and "financial uncertainty."

3.4 Curriculum analysis of Korean esports academies

The structured training programs offered by major Korean esports academies play a crucial role in shaping the early career development of professional *LoL* players. These academies

Table 1. Interviewee experience

No.	Role	Experience
1	Current professional coach	Former player in LCK
2	Current academy coach	Former player in LCK
3	Current academy coach	Former player in LCK
4	Former player in LCK	No current coaching role
5	Former coach in LCK	Former player in LCK

Source(s): Table by author

serve as pathways for aspiring players, providing them with technical training, strategic knowledge and mental preparation for professional competition.

3.4.1 Academy selection. This study focused on the training curricula offered by eight leading Korean esports academies: Gen.G Global Academy (https://ggacademy.gg/), T1 Academy (http://t1a.gg/), Dplus Esports Academy (https://dplusesports.academy/), Nongshim Esports Academy (https://www.esports-academy.co.kr/), DRX Esports Academy (https://academy.drx.gg/), BNK FearX Academy (https://fearxacademy.com/), GameCoach Academy (https://gamecoach.pro/), Seoul Game Academy (https://seoulgame.co.kr/). They were chosen due to their established reputations, structured programs and close ties to professional LoL organizations. Their track records of producing top-tier talent made them an ideal context for understanding how formal training systems shape early career trajectories in esports.

3.4.2 Data collection. Information on academy training programs was gathered primarily from publicly accessible websites, promotional materials and press releases issued by the academies. In some cases, internal materials – such as brochures or outlines provided to prospective students – were also reviewed, subject to availability and permission. Each document was examined for details regarding program structure, training methodologies, participant prerequisites and any additional resources offered to enrolled players (e.g. mental health counseling or physical exercise routines).

3.4.3 Analysis framework. The curriculum analysis was guided by a custom-designed framework that categorized each academy's offerings into thematic areas relevant to competitive readiness and career sustainability. First, the stages of training were identified to capture the progression from foundational skill-building to advanced team-based strategy. Within each stage, the study assessed how the curriculum addressed mechanical execution (e.g. champion mastery, situational awareness) and overarching skill focuses such as communication, macro play and leadership. Next, emphasis on mental and physical conditioning was evaluated by looking at whether the academy provided structured coaching for stress management, cognitive training tools or recommended exercise routines. Finally, attention was paid to career support elements, including mentorship programs, financial education and postgraduation guidance.

4. Results

4.1 Quantitative findings

Figure 1 illustrates the relationship between age and two key career metrics: total prize money earnings and player participation rates. The prize money distribution [Figure 1(a)] shows a compressed career timeline, with earnings rising sharply during the late teenage years, reaching a peak at age 21.0 years, and declining thereafter. The player participation data [Figure 1(b)] follows a similar pattern, with the peak earlier at age 20.5 years. The earlier peak in participation compared to earnings indicates a potential selection effect, where only the most successful players continue competing into their early twenties.

The use of GAMs proved particularly valuable for this analysis because they allowed us to identify nonlinear patterns in career trajectories without imposing rigid assumptions about the shape of these patterns. Unlike traditional parametric models that might force a specific functional form (such as quadratic or cubic), GAMs identified the natural rise and fall in performance across age ranges. This flexibility was essential for accurately capturing the accelerated career arc in esports – where the transition from ascent to

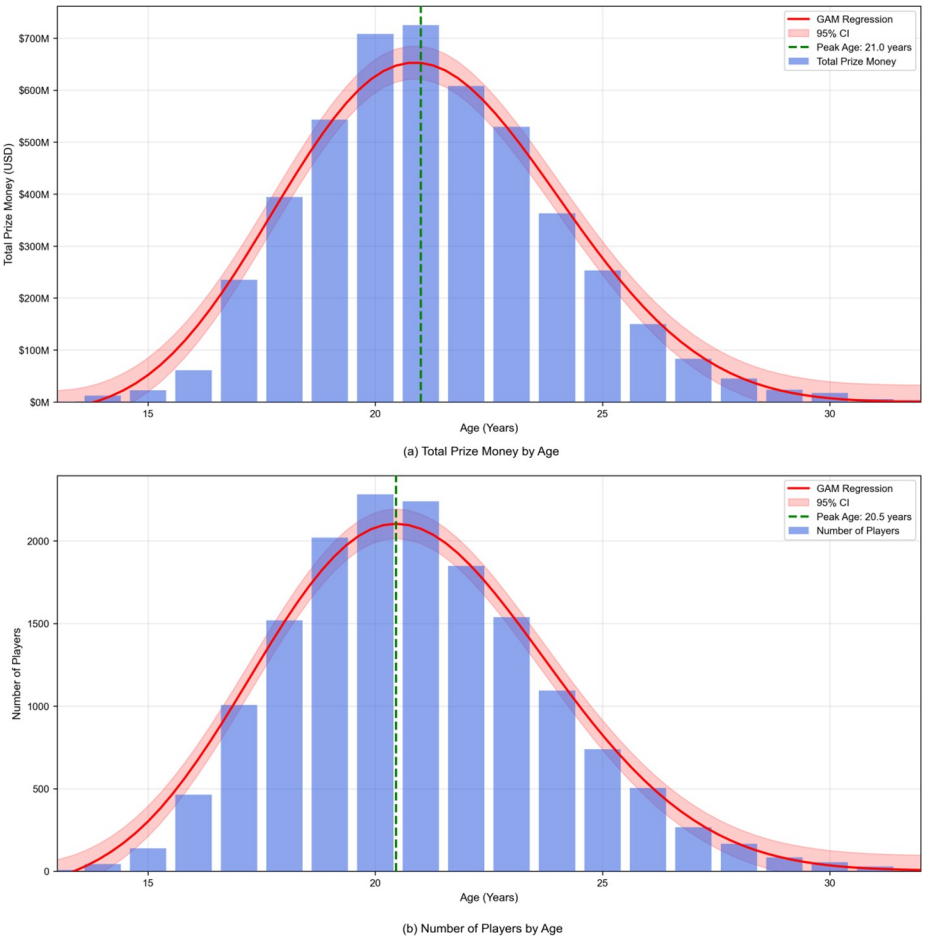

Figure 1. Prize money and participation by age for 4,159 League of Legends esports athletes from 2010 to 2024: (a) total prize money by age and (b) number of active players by age
Source: Figure by author

decline occurs more rapidly than in traditional sports and without a sustained plateau period. The smooth curves generated by the GAMs effectively visualized these transitions while filtering out noise in the data, providing clear evidence of the compressed career timeline in professional LoL.

We also analyzed normalized prize money (total prize money divided by number of active players at each age) to determine whether the observed peak at age 21 was simply a result of higher participation rates at that age. This normalized analysis confirmed that the peak earning potential per player also occurs around age 21, validating our finding that this age represents the performance zenith in professional LoL careers. The normalized prize money increased more gradually from ages 17–21 and decreased more gradually from ages 21–25, suggesting that while fewer players

continue past their early twenties, those who do remain often maintain competitive value to their teams.

Figure 2 provides statistical validation of these trends through Gaussian peak analysis and normality diagnostics. The Gaussian peak analysis [Figure 2(a)] confirms the prize money distribution's central tendency, with a peak age of 21.0 years and a standard deviation of 2.7 years. The normality of the prize money distribution was assessed through multiple statistical tests. The Shapiro–Wilk test ($W = 0.858$, $p = 0.001$), D'Agostino's K^2 test ($K^2 = 8.628$, $p = 0.013$), Anderson–Darling test ($A^2 = 1.676$) and the Q–Q plot [Figure 2(b)] shows some minor deviations at the tails, but the residuals histogram [Figure 2(c)] demonstrates that the distribution maintains a theoretical normal distribution around the peak performance years, exhibiting sufficient regularity to support our identified career patterns and peak age estimates.

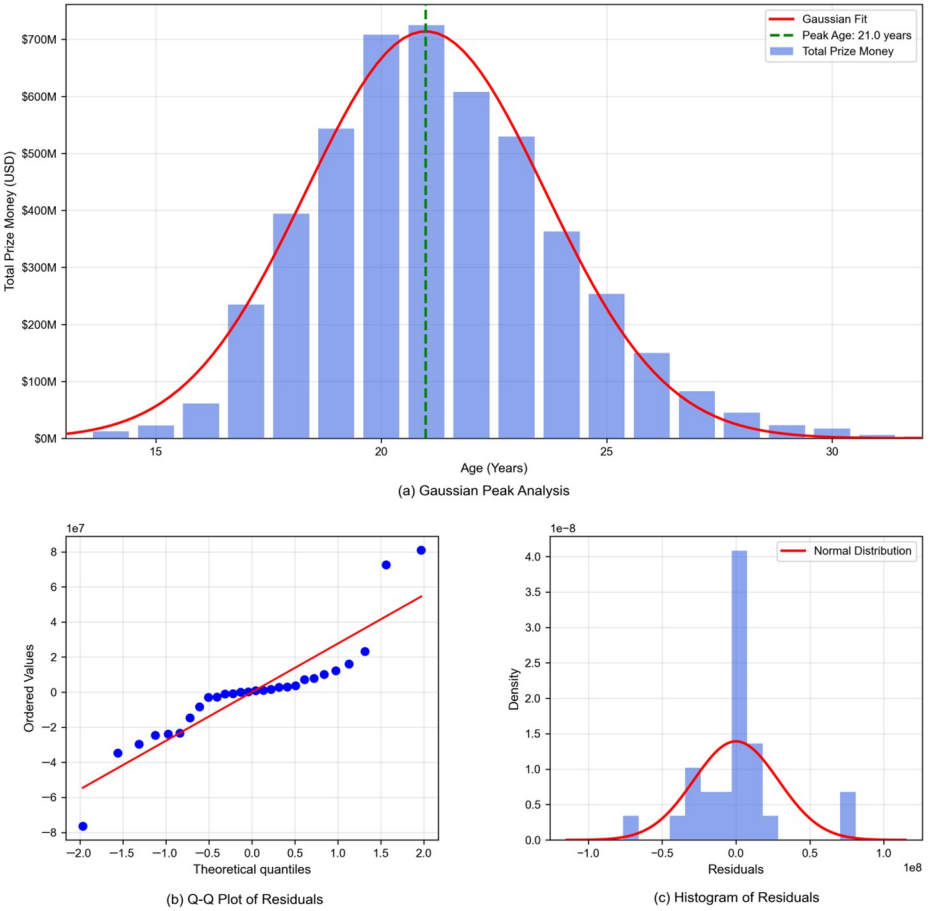

Figure 2. Statistical analysis of prize money distribution by age: (a) Gaussian peak analysis, (b) Q–Q plot of residuals and (c) histogram of residuals with fitted normal distribution curve

Source: Figure by author

4.2 Qualitative findings

4.2.1 Experiences during early career stages. All interviewees described early exposure to competitive gaming as highly self-driven, often starting in solo queue rankings or amateur tournaments. Interviewee 4 (a former LCK player) recounted that his pathway to professionalism began through high solo queue rankings, which led to invitations from amateur teams and, eventually, a professional contract. Interviewee 2 (a current academy coach) noted that while individual ladder performance remains crucial, modern scouting now heavily incorporates structured academy training, particularly in Korea, where teams have dedicated player development programs.

Transitioning from casual high-level play to professional environments required significant lifestyle adjustments, including longer practice hours, team-based strategies and adapting to strict coaching regimens. Interviewee 1 (a current professional coach and former LCK player) recalled, "Once I joined a professional team, the biggest change was the training load – going from playing for fun to 12–14 h of structured practice every day. It was mentally exhausting."

For younger players, balancing education and esports commitments was another challenge. Interviewee 3 (a current academy coach) explained that most young recruits struggled to maintain school attendance while training full-time. In many cases, organizations pressured players to prioritize esports over academics, a reality that left many without viable backup plans if their competitive careers ended prematurely.

Support systems for young players were highly inconsistent, with some organizations offering mental health resources and career counseling, while others provided minimal off-game support. Interviewee 5 (a former LCK coach) remarked, "Teams invest in training young players but don't prepare them for life outside of competition. There's no structured long-term planning for players who don't make it to the top."

4.2.2 Challenges in peak performance years. During their peak competitive years, players experienced extreme pressure to sustain high-level performance, adapt to meta shifts and manage the mental strain of high-stakes tournaments. Interviewee 4 described this phase as "the most demanding yet rewarding period of my career. Every match felt like it could define my future, and there was always someone younger ready to take my place."

Interviewee 1 emphasized that success required not just mechanical ability but also mental endurance and game sense. He explained, "Raw skill gets you into the scene, but it's strategic thinking and consistency that keep you there. Players who can't evolve beyond mechanics tend to fade out quickly."

Despite the high stakes, burnout was a persistent issue, especially for players facing relentless practice schedules and public scrutiny. Interviewee 3 noted that "Mental fatigue sets in when you don't have time to recover. Some players mentally check out before they even hit their peak." Interviewee 5, drawing from his experience as a coach, explained that teams lacked proper psychological support systems, stating, "Many players burn out simply because they don't know how to manage stress. There's no emphasis on mental resilience training like in traditional sports."

Adapting to declining reaction speeds was another challenge. Interviewee 2 pointed out that some players transitioned into roles that required more strategic play rather than pure mechanics, explaining, "The players who lasted longer were the ones who adjusted their playstyles, shifting from mechanically demanding champions to ones that relied more on game knowledge." However, Interviewee 1 noted that this approach wasn't always enough, as teams often preferred younger talent over veteran players, regardless of adaptability.

4.2.3 Adaptation strategies during career decline. As players entered the decline phase, they faced increasing uncertainty about their competitive futures. Interviewee 4 described the

frustration of losing mechanical precision and struggling to keep up with rising talent, stating, "I knew I wasn't as fast as before, but I still had the knowledge to contribute. The problem was, teams weren't interested in experience – they wanted new blood."

Interviewee 1 highlighted that some players successfully extended their careers by shifting roles, but this wasn't a guarantee. "It works for a few players, but the reality is that most teams are structured around young, aggressive talent. Unless you're a star player, extending your career beyond your mid-20s is tough."

The uncertainty of career transitions weighed heavily on players. Interviewee 3 remarked that "There's no roadmap for what comes next. You either get lucky with a coaching or analyst role, or you're out." Interviewee 5, who had previously coached, agreed, noting that many players lacked career transition support, making their postcompetitive phase incredibly difficult.

4.2.4 Postcompetitive career transitions. The retirement phase in esports was described as the most unstructured and challenging period of a player's career. Interviewee 5 explained that teams rarely offer formal transition programs, leaving players to navigate their postcompetitive lives independently. He stated, "Once a player retires, they're on their own. There's no pension, no guaranteed job placement – nothing."

Financial instability was a common concern. Interviewee 4 admitted that many players lacked financial planning skills, leading to difficulties after leaving competitive play. "Unless you were a superstar with sponsorship deals, you often had no financial security once your career ended."

Some former players transitioned into coaching, broadcasting or streaming, but opportunities in these areas were limited. Interviewee 2 described his transition into coaching as "a lucky break", noting that only a handful of former players secure coaching positions. Interviewee 1, now a professional coach, emphasized that not all players are suited for coaching, stating, "Just because you were a good player doesn't mean you'll be a good coach. Coaching requires a completely different skill set."

For those who turned to streaming or content creation, success was largely dependent on branding and personality rather than competitive skill. Interviewee 3 pointed out that "Only a few ex-pros can make a living as streamers. It's not just about gameplay – it's about entertainment and audience engagement."

All interviewees agreed that structured career transition programs are urgently needed. Interviewee 5 summed up the problem succinctly: "Teams pour resources into developing young talent, but they abandon them the moment they retire. There needs to be a system in place to guide players after they leave competition."

4.3 Academy curriculum insights

An analysis of the training programs offered by eight leading Korean esports academies reveals both the strengths and limitations of these structured development pathways. While these academies play a crucial role in preparing aspiring professionals for competitive LoL, their focus remains predominantly on short-term performance gains rather than long-term career sustainability.

As summarized in Table 2, the curriculum across these academies follows a staged skill development model. The training process typically progresses from fundamental mechanics and strategic awareness to advanced team coordination and professional-level execution. This structured approach ensures that players develop the technical, tactical and communication skills necessary for success at the highest levels of competition.

The foundational stage of academy training emphasizes basic champion control, map awareness and game mechanics, laying the groundwork for more advanced strategic play. As

Table 2. Curriculum and key training content at esports academy in Korea

Stage	Target players	Objectives	Gameplay skills	Game strategy	Mental and physical conditioning	Communication and teamwork
Foundational training	- Aspiring players	- Build essential gaming skills - Introduce competitive mindset	- Basic character control - Understanding game mechanics	- Basic strategies - Map navigation - Resource management	- Introduction to healthy gaming habits - Posture and physical health awareness	- Basic communication skills - Following instructions from teammates
Skill development	- Students with some competitive experience	- Enhance individual skills - Improve decision-making	- Advanced character control - Situational awareness	- Strategic objectives control - Risk and reward assessment	- Healthy gaming habits for long sessions - Managing physical and mental stress	- Developing leadership skills - Coordination and communication in key moments
Team-based strategy	- Students aiming for higher-level competition	- Develop teamwork - Learn advanced strategic play	- Specific game roles - Efficient use of resources and positioning	- Complex team-based strategy - Adapting to opponents' tactics	- Physical endurance for tournaments - Mental resilience for high-pressure situations	- Effective game communication - Real-time decision-making - Clear instruction-giving
Advanced game mastery	- Preprofessional and semiprofessional students	- Prepare for professional-level competition	- Advanced mechanics - Specialized role execution	- Adaptive strategies - Counter for opponents' styles and strategies	- Optimal physical health for competitions - Mental focus and strategic thinking under stress	- Advanced leadership skills - Coordination and direction of teammates in fast-paced situations
Predebut preparation	- Students preparing for professional debut	- Refine skills for professional tournaments	- Perfect gameplay mechanics under pressure - Role-specific mastery	- Strategies for competitions - Detailed performance review and analysis	- Comprehensive mental and physical conditioning - Postcompetition recovery	- Leading and mentoring teammates - Shot-calling and strategic communication

Source(s): Table by author

players advance through the program, they receive specialized role-based training, honing their skills within specific in-game positions such as jungle, support or mid-lane. This role specialization mirrors the professional environment, where players are expected to master distinct responsibilities within a team. In addition, the curriculum integrates scrimmages against semiprofessional teams and participation in regional competitions, providing players with real-world experience under tournament conditions.

Despite these strengths, significant gaps exist in preparing players for career sustainability beyond their peak competitive years. With the exception of special cases like Gen.G – which officially employs a mental coach with a master's degree in psychology and incorporates a separate mental coaching class into its regular curriculum – sports specialists remain largely absent from most Korean esports academies. While some programs include stress management workshops and basic posture correction exercises, they are typically sporadic, optional or regarded as secondary to skill-based drills, rather than integral components of the curriculum. Unlike traditional sports academies, which often incorporate nutrition plans, physical conditioning programs and long-term career development courses, esports academies continue to prioritize immediate competitive results over holistic athlete development.

Another critical limitation is the lack of structured career transition pathways. Academy graduates who do not secure professional contracts are often left without clear alternatives, as most programs provide limited guidance on postcompetitive career opportunities. Unlike traditional sports, where developmental academies often support pathways into coaching, sports analysis or management, esports academies rarely offer formal training in nonplaying roles. Players who fail to reach the professional level may attempt to pivot to streaming, content creation or freelance coaching, but these avenues are typically pursued independently rather than through structured academy support. Consequently, many players who do not reach the professional level struggle to transition into alternative careers within or outside of the esports industry.

The academy model in Korea differs from Western esports development systems, where talent is often identified through grassroots tournaments, solo queue rankings or direct team scouting rather than structured training programs. The Korean approach provides early institutionalized support, potentially accelerating skill acquisition, but it does not adequately address long-term career security. As a result, while these academies successfully produce elite players, they contribute to an ecosystem where retirement often comes abruptly and without structured support systems.

5. Discussion

5.1 Integrating quantitative and qualitative results

The findings from statistical modeling, qualitative interviews and academy curriculum analysis collectively reinforce the reality of an accelerated esports career trajectory in professional LoL. The quantitative analysis of 4,159 players across 1,605 tournaments highlights a sharp rise in performance, peaking at approximately 21 years old, followed by a rapid decline in prize earnings and participation rates. This pattern contrasts sharply with traditional sports, where peak performance often extends into the late 20s or early 30 s. The qualitative interviews provide deeper insight into why this rapid decline occurs, revealing key issues such as burnout, role inflexibility and lack of structured postcareer pathways. The academy curriculum analysis further contextualizes these findings, illustrating how training programs emphasize immediate competitive performance over long-term career sustainability.

A critical takeaway from these results is that career decline in esports is not solely determined by cognitive aging or mechanical deterioration. While reaction speed naturally declines with age, many former players interviewed emphasized that strategic adaptability and game knowledge remain strong assets well beyond their early 20 s. However, teams and organizations prioritize young, mechanically skilled players, often replacing veteran players instead of supporting their adaptation to less mechanically demanding roles. Unlike traditional sports, where athletes are often repositioned into roles that extend their careers (e.g. playmakers in football, designated hitters in baseball), esports lacks a systematic approach to role specialization.

These factors contribute to an industry-wide pattern of early retirement, where even experienced players with deep game knowledge struggle to maintain a place in the competitive scene. Financial instability, mental fatigue and unclear career transition pathways further exacerbate this issue, highlighting a critical gap in the current esports ecosystem. The next section proposes a structured five-stage career development model that accounts for these challenges and offers potential solutions for career sustainability.

5.2 Five-stage career development framework in esports

Integrating insights from quantitative, qualitative and curriculum-based findings, this study proposes a five-stage career model for professional LoL players in Figure 3. This framework – Entry, Growth, Maturity, Decline and Transition – reflects the accelerated career cycle unique to esports and provides a structured approach to understanding player development, peak performance and retirement. The competitive pyramid in Korean LoL, outlined in Figure 4, underpins this model, showing how players progress from amateur and academy leagues to elite-level competition before eventually exiting or shifting roles.

The Entry Stage (ages −17) marks the initial phase of competitive gaming, where players transition from casual high-level play to structured training, often engaging in minor leagues (Levels 4 and 5 in Figure 4). This period is characterized by early skill development, talent identification and initial exposure to competitive pressure. Players at this stage compete in amateur tournaments, refine their mechanics and develop fundamental game knowledge. Korean esports academies play a significant role at this stage, introducing players to rigorous

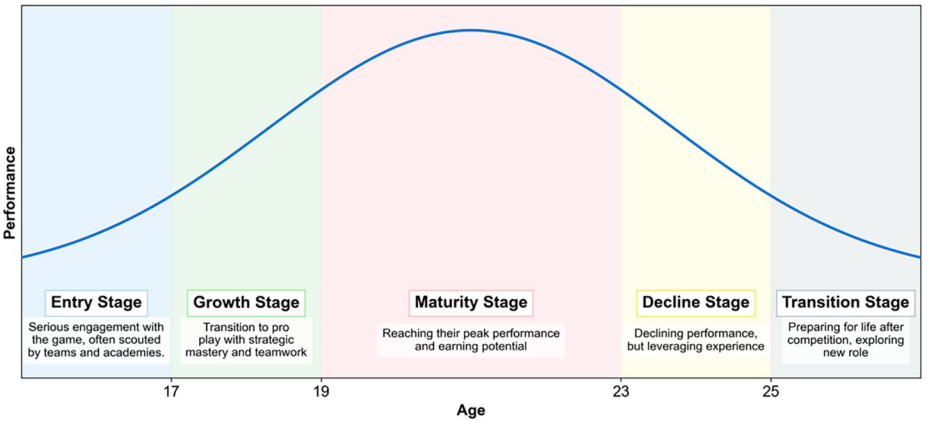

Figure 3. Esports career stage framework
Source: Figure by author

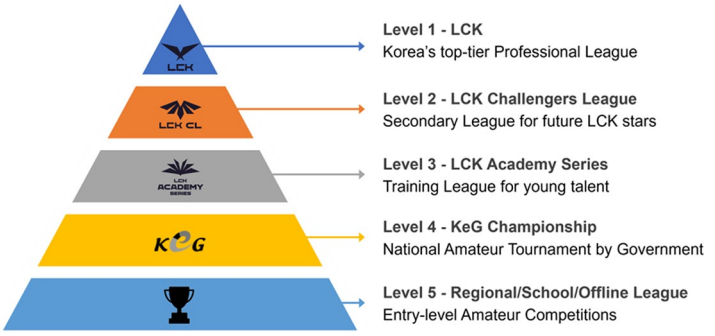

Figure 4. The competitive structure of League of Legends esports in Korea
Source: Figure by author; league logos © Riot Games, used for noncommercial academic purposes

practice routines, communication strategies and mental conditioning techniques. However, as noted in the curriculum analysis, these programs lack adequate education on career planning, financial management or postretirement pathways, leaving young players hyper-focused on short-term success.

The Growth Stage (ages 17–19) represents the transition to semiprofessional and professional play, often within academy league and second-division leagues (Levels 2 and 3 in Figure 4). This stage is defined by intensive training regimens, exposure to team-based environments and increasing competitive pressure. Players refine their mechanics, strategic decision-making and adaptability, as they prepare for potential recruitment into the professional teams. Unlike the entry stage, where individual skill development is prioritized, the growth stage emphasizes teamwork, communication and high-level strategy execution. Players at this stage face intense pressure to perform, and the risk of burnout and mental fatigue begins to emerge. Interviews revealed that players struggle with balancing academic commitments, as teams often encourage full-time dedication to gaming without alternative career planning. This stage represents a pivotal career decision point, where players must prove their ability to sustain performance at the professional level or risk stagnation in semiprofessional circuits.

The Maturity Stage (ages 19–23) aligns with peak career performance, as confirmed by statistical models showing peak earnings and participation at age 21. At this stage, players are at the peak of their mechanical execution, decision-making and strategic adaptability, experiencing peak financial success and peak recognition within the esports ecosystem. However, teams place extreme demands on players to maintain peak performance, leading to increased stress, anxiety and performance-based job insecurity. Unlike traditional sports, where athletes at their peak often gain increased sponsorship deals and career security, esports players remain vulnerable to sudden roster changes and contract terminations.

The Decline Stage (ages 23–25) is marked by decreasing mechanical execution and increasing competition from younger talent. This phase is characterized by inconsistent performance, reduced financial incentives and the growing risk of being replaced on team rosters. Some players adapt by transitioning to less mechanically demanding roles, such as support or jungle, where strategic knowledge can offset mechanical decline. Others rely on experience and game sense to remain competitive, though the effectiveness of such adaptations varies. However, the industry-wide preference for younger players accelerates roster changes, leading to frequent contract terminations and early retirements. At this stage,

mental exhaustion and career uncertainty peak, and players begin considering alternative career paths. The absence of structured financial literacy programs and career counseling within teams and academies often leaves players ill-prepared for postcompetitive life.

The Transition Stage (ages 25 and beyond) represents the postcompetitive phase, where former players explore careers in coaching, content creation, broadcasting or esports management. However, this stage is highly unstructured, as esports lacks formalized career transition programs to assist retiring players. As emphasized in the interviews, these roles are limited and highly competitive, with only a select few securing stable positions. Many retired players experience financial instability and difficulty reintegrating into nongaming careers, as their specialized skills in professional play do not always translate into traditional job markets. The lack of structured transition support programs across esports organizations remains one of the most significant weaknesses in the current ecosystem.

This model highlights the short-term focus of the current esports system and underscores the need for reforms to improve career sustainability.

5.3 Challenges and practical solutions across career stages

The findings of this study reveal systemic challenges that professional LoL players encounter at different career stages, alongside potential solutions for improving career sustainability. These challenges range from balancing early development with education, coping with peak performance pressures and navigating uncertain postretirement transitions. Addressing these issues requires a multi-stakeholder approach, involving teams, academies, governing bodies and players themselves.

One of the most pressing concerns is the lack of structured development pathways beyond peak performance. The Entry and Growth Stages often emphasize mechanical skill training and tournament performance, but neglect academic integration and long-term career planning. While academy programs provide a strong foundation for professional play, they rarely offer financial literacy training or alternative career guidance, leaving young players vulnerable to career instability if they do not reach the professional tier. A more integrated dual-career approach, combining formal education with structured esports training, could provide players with greater flexibility in long-term career decisions.

During the Maturity and Decline Stages, players face immense competitive pressure to maintain their peak performance while adapting to meta shifts and role expectations. However, esports teams generally prioritize younger players, often replacing veteran players rather than investing in role specialization and strategic adaptability training. In contrast to traditional sports, where aging athletes transition into roles with lower physical demands, esports lacks a structured framework for career longevity. Introducing structured adaptability training and mental health programs could help sustain player careers beyond early mechanical decline.

The Transition Stage remains the most underdeveloped and under-supported phase. Retired players frequently struggle with financial instability, loss of identity and difficulty reintegrating into the workforce. Unlike traditional sports, where structured transition programs exist – such as the NFL Player Care Foundation which provides career development services, the NBA's Career Development Program offering internships and educational opportunities or the Olympic Athlete Career Program providing employment services and education grants – esports lacks comparable infrastructure for postretirement transitions. Establishing formal postretirement planning, mentorship networks and financial literacy workshops could help players navigate life after competition with greater security. In addition, teams and leagues could create postcareer job opportunities in coaching, analysis or

content creation, allowing former players to remain in the industry without relying solely on competitive earnings.

A summary of these challenges and proposed solutions is outlined in Table 3. The table presents key challenges facing players at each career stage alongside targeted solutions that address these challenges directly. By clearly defining primary stakeholders for each intervention – teams, academies, sponsors and governing bodies – this framework shifts the focus from isolated fixes to a systematic, industry-wide approach. Addressing these issues holistically can transform short-lived careers into sustainable professional pathways, benefiting both players and the broader esports ecosystem.

5.4 Theoretical and practical implications

The findings of this study highlight critical gaps in esports career trajectories, reinforcing how early professional entry, rapid performance escalation and abrupt decline create a precarious career arc for professional players. Unlike traditional sports, where athlete development models emphasize long-term career planning, the esports industry lacks a cohesive framework to support players beyond their peak competitive years. Addressing these gaps requires collaborative interventions at multiple levels, involving teams, academies, policymakers and esports organizations.

From a team management perspective, implementing structured mental health support, role flexibility training and veteran player development programs is essential. Teams often overlook experienced players in favor of younger talent, failing to recognize the value of game knowledge, leadership and strategic adaptability. By encouraging role specialization and leadership development, organizations can prolong the careers of veteran players while improving overall team stability. Furthermore, mental health support programs, modeled after traditional athlete resilience training, can help players manage high-performance stress and reduce burnout.

Our findings align with broader research on sustainable team performance in competitive environments. Literature on high-performance team management (Edmondson, 2012; Salas *et al.*, 2018) emphasizes that team longevity and knowledge retention contribute to higher overall performance, yet the esports ecosystem currently discards experienced players before they can fully contribute their accumulated strategic wisdom. Organizations that develop mechanisms to integrate veteran players in either playing or mentorship capacities may gain competitive advantages through improved team cohesion and knowledge transfer.

At the academy level, supplementing technical skill training with educational programs, financial literacy courses and career transition planning can better prepare young players for the realities of an esports career. Most academy programs focus primarily on immediate competitive performance, neglecting holistic career sustainability. Introducing dual-career programs, integrating esports training with academic education, could create a more balanced developmental structure.

From a policy-making standpoint, establishing standardized guidelines for player contracts, training loads and postretirement options is necessary to mitigate career volatility. Current esports structures lack industry-wide regulatory frameworks to ensure player welfare, leading to inconsistent career support across teams and leagues. Mandatory financial literacy education, pension plans and structured transition programs – similar to those found in traditional professional sports leagues – could significantly improve long-term career stability. In addition, international collaboration between esports federations could help establish best practices for career development and postretirement support.

Table 3. Challenges and solutions for each career stage in League of Legends esports

Stage	Challenges	Solutions
Entry stage	- Balancing esports training with school - Gaining family support for an esports career - Navigating contract terms and commitments	→ Provide dual-pathway programs (academic + esports) → Organize parental education sessions → Simplify and clarify recruitment practices
Growth stage	- Fatigue from intensive practice - Developing leadership and decision-making - High-pressure competition environments	→ Implement structured rest periods and breaks → Offer leadership/communication training → Provide mental resilience workshops
Maturity stage	- Sustaining peak performance - Adaptation to evolving game metas - Maintaining physical and mental health	→ Access to continuous performance coaching and feedback → Emphasize adaptability training → Include regular mental/physical health support
Decline stage	- Slower reaction times - Risk of burnout - Uncertainty regarding future roles	→ Encourage role specialization (macro vs mechanical) → Offer career counseling and transition plans → Continue mental health support
Transition stage	- Lack of formal exit pathways - Financial instability postretirement - Difficulty adjusting to life after esports	→ Develop structured retirement programs and alumni networks → Provide financial literacy training → Facilitate alternative career options

Source(s): Table by author

By integrating these structural reforms, the esports industry can bridge the gap between short-term competition and long-term sustainability, ensuring that players can thrive both during and after their professional careers.

5.5 Limitations and future research directions

While this study provides a nuanced understanding of career trajectories in Korean LoL esports, several limitations must be acknowledged. First, the reliance on prize money as a primary performance metric does not fully capture the multi-faceted nature of competitive success. While earnings trends provide insight into career peaks and declines, they do not reflect nonmonetary performance indicators, such as individual skill progression, strategic adaptability or in-game leadership. Future studies should incorporate in-game analytics, such as Kill/Death/Assist ratios, vision control metrics and damage output trends, to offer a more comprehensive evaluation of player performance over time.

Second, the qualitative interview sample, while valuable, remains relatively small, comprising five former professionals and coaches. While their insights provide a strong foundation for understanding player experiences, expanding the participant pool to include active players, team managers and esports psychologists would enrich the discussion on career sustainability. In addition, cross-regional studies comparing Korea's structured academy system to the more decentralized Western esports development model could clarify how different infrastructures shape career longevity.

Another limitation is the lack of longitudinal tracking of individual player careers. While this study analyzes career trends from 2010 to 2024, it does not systematically track the same players over time to assess how career trajectories evolve in real-time. A longitudinal approach, following specific cohorts of players from academy-level training through postretirement transitions, would allow for more detailed investigations into psychological factors, training environments and role specialization strategies.

Our game-specific focus on LoL represents another limitation. While LoL is a dominant esports title with the most developed professional infrastructure, career patterns may differ significantly in other games like Counter-Strike, Dota 2 or fighting games where mechanical demands, team structures and competitive formats vary considerably. Future research could explore whether the five-stage career model is applicable across different gaming titles, or whether game-specific modifications are necessary to account for unique competitive dynamics.

Finally, this study underscores the need for policy-focused research on how governing bodies, esports federations and national organizations can establish structured career support systems for professional gamers. Comparative research across different game titles – such as LoL, Counter-Strike and Dota 2 – could reveal whether career longevity varies significantly based on game mechanics, competitive structures or player roles. Exploring how different esports ecosystems manage player development and retirement could inform best practices for creating sustainable esports careers.

By addressing these research gaps, future studies can contribute to a more comprehensive understanding of esports as a professional industry, paving the way for more equitable, structured career pathways that benefit both players and organizations.

6. Conclusion

This study highlights the accelerated career trajectory of professional LoL players in Korea, where peak performance typically occurs around age 21, followed by a rapid decline. By integrating quantitative analysis of prize earnings and participation trends with qualitative insights from former professionals and academy curricula, this study identifies five distinct

career stages – Entry, Growth, Maturity, Decline and Transition – each influenced by structural, psychological and developmental factors. The findings reveal that while intensive training regimens and high cognitive-motor demands drive early peak performance, the absence of structured career transition programs exacerbates the risks of burnout, performance anxiety and financial instability.

This research refines existing athletic career models, demonstrating that traditional frameworks do not fully capture the unique pressures of esports – where early specialization, rapid adaptation and sudden retirements are common. The proposed five-stage career framework provides a data-driven foundation for understanding player development, offering concrete recommendations for talent management, career sustainability and postcompetitive transition planning.

A systematic, long-term approach is necessary to address structural gaps in player support systems. While short-term interventions, such as integrating mental health support, structured rest periods and leadership development, can help mitigate burnout and performance anxiety, comprehensive career planning and postretirement programs are essential for sustainable career longevity. Esports academies must balance competitive training with educational opportunities, ensuring that young players develop both in-game skills and off-game competencies. Similarly, teams should adopt role adaptation strategies, allowing veteran players to transition into less mechanically demanding roles rather than being replaced prematurely.

At a broader industry level, governing bodies and tournament organizers must take greater responsibility for career sustainability initiatives. Standardizing career transition infrastructures, mentorship networks and financial literacy training can provide players with the necessary tools to navigate life beyond competition. In addition, cross-industry collaboration between teams, sponsors and esports organizations can foster a more structured professional environment, ensuring that esports evolves not only as a competitive industry but also as a viable long-term career path.

As esports continues to grow, stakeholders across the ecosystem – teams, academies, governing bodies and policymakers – must prioritize player well-being alongside performance expectations. By developing more robust career support systems, the industry can extend player longevity, improve postcompetitive outcomes and create a more ethical and sustainable professional landscape. In doing so, esports can move beyond a short-term competitive model toward a more structured, player-focused profession that safeguards the future of those who dedicate their careers to the game.

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