BOOK OF ABSTRACTS

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BRIDGING GAMING HERITAGE

AND

ESPORTS FUTURES

Transformations, Traditions, and Tomorrow

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Foreword

An arcade cabinet is a strange piece of competitive infrastructure. There is no broadcast, no franchise and no season, only a coin slot, a screen at eye level, and somebody standing behind you waiting for the machine. Japan built that room, filled it, and exported it, and for a long stretch in the history of digital play the shortest route to finding out who was better ran through a game centre. Competition was organised there long before anybody thought to call it esports.

Japan is nevertheless described, with some regularity, as a gaming superpower that is not an esports superpower. Two explanations circulate. In the first, the heritage is a head start still waiting to be cashed in, as the titles, the talent and the audience are all in place and the ecosystem may only need time. In the second, the heritage is the obstacle, as an arcade and console culture, a long history of regulating prize money, and circuits built around different games all pull against the standard model. However, both explanations treat heritage as a stock that either helps or hinders. It is neither. Heritage is a design condition. Nothing passes from a gaming culture into an esports ecosystem untranslated, and translation is work: licences, leagues, contracts, career paths, health support, legal categories, and the slow business of making a scene legible to people who grew up outside it.

That is what the theme asks of us, and this volume delivers it. The contributions gathered here run from the physical complaints of federation-certified athletes to the intellectual property sitting underneath competitive titles, from Japanese grassroots ecosystems to an elderly gaming programme carried from Asia to the Nordics, from a new tournament format to governance, integrity, fandom, pedagogy, and generative AI turning up in places nobody planned for it. What holds a catalogue like this together? Read one after another, they turn out to be translation problems, each of them local, none of them solved by an ecosystem simply growing older. As a description of where esports research stands in 2026, that is more honest than any single framework we could offer here.

This is the first time the network convenes in Japan, and it is fitting that we do so at the University of Tsukuba, whose sports science tradition has never treated the question of what counts as performance as settled. Especially in a programme where so many papers ask what a competitor is, that seems the right room to be in. Our thanks go to the local team for hosting us, and to every author, reviewer and session chair who got this programme to the page.

GLHF,

Tobias M. Scholz, ERN Chair

Seth E. Jenny, ERN Board Member

A Cross-Sectional Survey of Physical Complaints and Preventive Conditioning Practices Among Japanese Esports Athletes Certified by the National Federation

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Introduction: As esports evolves as a competitive sport, increasing attention has been towards the conditioning of esports athletes from the perspectives of health, well-being, and performance (DiFrancisco-Donoghue et al., 2019; Emara et al., 2020). Previous studies have reported the esports athletes have experience physical complaints such as musculoskeletal pain, injuries, and spinal function problems (Lindberg et al., 2020; Clements et al., 2022; Lam et al., 2022). These symptoms have been associated with factors including posture, distance from the screen, device usage, prolonged sitting, and playing hours. However, evidence regarding the physical condition and preventive conditioning behaviors of Japanese esports athletes remains limited.

Purpose: This study aimed to investigate pain and discomfort, weekly esports play time, and warm-up and cool-down practices among esports athletes certified by Japan's national esports federation, the Japan Esports Union (JESU).

Methods: This web-based cross-sectional survey targeted 350 JESU-certified athletes. A total of 83 athletes who provided complete responses were included in the analysis (mean age, 31.0 ± 7.5 years; 80 males, 3 females). Participants held licenses across 14 JESU-recognized titles, including Street Fighter 6, Tekken 8, and eFootball. The questionnaire collected information regarding esports title, pain or discomfort and affected regions, weekly play time, and warm-up and cool-down practices. Descriptive statistics were used to summarize the data.

Results: Among the 83 participants analyzed, 51 (61.4%) reported pain or discomfort in at least one area. The most frequently reported area was the lower back (29, 34.9%), followed by the shoulders (27, 32.5%), neck (23, 27.7%), and eyes (21, 25.3%). Additionally, 33 (39.8%) reported symptoms in multiple areas. Regarding esports play time, 22 (26.5%) reported playing for 35 hours or more per week, based on a cut-off value used in a previous study (Ekejärd et al., 2024). Among participants who reported symptoms, 17 (33.3%) played for 35 hours or more per week, whereas this proportion was 15.6% among without symptoms. And among participants with symptoms, 37 of 51 (72.5%) did not perform warm-up exercises, while 22 of 32 participants without symptoms (68.8%) also did not. Similarly, 44 of 51 participants with symptoms (86.3%) and 28 of 32 without symptoms (87.5%) did not perform cool-down exercises.

Practical Implications: The prevalence of symptoms observed in this study was comparable to findings from previous study involving the 62.5% prevalence of physical symptoms among Swedish professional esports gamers. Although the proportion of athletes playing 35 hours or more per week was lower than that reported in earlier study, longer playing time tended to be more common among athletes with symptoms. In contrast, the lack of warm-up and cool-down routines was consistently high regardless of symptom. The conditioning support should address prolonged play time and promote preventive conditioning for all athletes, and support staff should monitor these symptoms and consider title- and device-specific strategies.

Conclusion: This study found that complaints involving the lower back, shoulders, neck, and eyes were more common. Future support systems should incorporate title- and device-specific approaches while enabling continuous monitoring of athletes' physical condition and preventive conditioning practices.

Keywords: esports athletes, physical complaints, preventive conditioning, cross-sectional survey

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A framework for identifying healthy displays of masculinity in online gaming communities

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Introduction: Online gaming, streaming, and esports are influential social environments for boys and young men. Gaming influencers do more than model gameplay; they also model ways of communicating, competing, relations with peers and the management of emotions (Gurrieri et al, 2024). Existing research has examined harmful or restrictive masculine practices in gaming, including hegemonic masculinity, toxic gamer culture, geek/gamer masculinity, harassment, and gendered exclusion (Meriläinen et al., 2026). Meriläinen et al.'s review found limited connection with broader men's studies, and comparatively little research on men's lived gendered experiences in gaming. Less attention has been paid to healthy masculine displays in gaming environments, particularly in content targeted at tween boys aged 9–12, an important developmental stage for developing social and emotional norms (Agirre & Fernández, 2024).

Purpose: This study forms part of a broader project examining the influence of gaming influencers on tween boys. It focuses on an early phase of that work, identifying how healthy masculinities is constructed and performed by gaming influencers within content aimed at tween boys. Based on this mapping, the study aims to publish a conceptual framework for identifying healthy displays of masculinity in online gaming content.

Method: A synthesis of literature on healthy masculinities was conducted to identify performances of healthy masculinities. This included non-gaming-based masculinity frameworks such as the relational-cultural framework (Di Bianca & Mahalik, 2022) and reviews of masculinity theorisations and programs (Flood et al., 2024; Exner-Cortens et al., 2021; Wilson et al., 2022). These literatures informed the development of theoretical codes used to analyse healthy displays of masculinities by content creators in videos featuring gameplay, commentary and audience interaction. A qualitative content analysis was conducted on gaming content likely to be viewed by tween boys, using a purposive sample of gaming influencers and their content on YouTube. Investigators view the content and record observations using the coding frame.

Findings: The study will present a draft conceptual framework with examples identified through a content analysis of gaming influencer content. The framework will identify how performances of healthy masculinities, such as emotional expression, are being modelled by gaming influencers who create content for tween gamers. The framework will identify if, and how, these healthy performances manifest in gaming communities.

Contribution: This paper contributes a theoretically grounded framework for identifying healthy masculine displays in gaming content. While prior gaming research has richly documented harmful masculine norms, this framework shifts attention toward how healthy masculinities are communicated in online gaming communities. It also provides a foundation for future research into how gaming influencers may support healthier gender norms among boys and young men. By identifying and analysing healthy masculine displays, the framework may support researchers, educators, public health communicators, and industry stakeholders seeking to engage male gamers in more respectful and prosocial online behaviour.

Conclusion: The framework offers an early conceptual and methodological tool for examining healthy masculinities in gaming influencer content. Rather than positioning gaming communities only as sites of harm, the framework enables researchers to identify moments where content creators model care, respect, inclusion, emotional regulation, and accountability. In doing so, it creates a basis for future work exploring how healthier masculine norms can be recognised, supported, and amplified in gaming cultures.

Keywords: healthy masculinities, gaming influencers, tween boys, content analysis, online gaming communities

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Accelerating the performance level of first-person shooter game beginners: Using the biofeedback training focused on gaze movement

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Introduction: First-Person Shooter (FPS) games are an esports genre where players battle with opponent players using guns, knives, and throwing weapons. During FPS gameplay, superior gaze (absolute position of the eyes in space, Schmid & Zambarbieri, 1991) control abilities are essential for achieving high performance (Jeong et al., 2025; Koposov et al., 2020), and gaze-based training can reduce the reaction time of FPS game players (Jeong et al., 2026). Nevertheless, three important gaps remain to be addressed in the current research: 1) it is unknown whether training based on the gaze control abilities of high-skilled esports players can lead to improvements in actual competitive performance, 2) the training methods developed in the esports field often only target esports players who already have sufficient esports playing experience, and 3) the previous studies only investigated the acute effect (10 minutes) of gaze-based training.

Purpose: We aimed to investigate whether long-term gaze-based training (peripheral vision training; PVT) could accelerate in-game performance improvement for individuals new to FPS games.

Methods: Twelve male participants with no prior esports experience were recruited. Participants were randomly assigned to either a training group (six participants), which performed PVT alongside FPS gameplay (Valorant), or a control group (six participants), which played only the FPS game. During the PVT, participants received audio feedback when their gaze was off-center from the monitor. The experimental period consisted of 12 testing sessions (2−3 sessions per week, a total of 5 weeks). During PVT and playing the AimLab, reaction time, accuracy, and gaze distribution (recorded using Tobii 5) were collected. The Kill/Death/Assist (KDA) score was measured after each match of Valorant. The KDA score from tests 1 through 3 was set as the baseline. All data from 12 tests were analyzed across four periods (3 tests per period: Early, Early-Mid, Mid, and Late; interval between each period: one week).

Results: First, gaze distribution was significantly decreased in the training group compared to that of the control group in the Early-Mid period ($p < .05$). Second, the reaction time of the training group was significantly decreased compared to the control group in the Early-Mid, Mid, and Late periods (all $p < .05$), but not in accuracy. Third, the KDA score of the training group increased significantly in the Late period compared to the baseline, relative to the control group ($p < .05$).

Practical Implications: The results of this study suggest that gaze-based training might be useful for individuals with no prior esports experience who wish to improve their cognitive functions through esports.

Specifically, improvement of cognitive functions related to peripheral vision, thereby accelerating improvements in reaction time and gaming performance. Esports is well known for improving cognitive function (Boot et al., 2011), but adapting to the gaming environment requires substantial effort and time. Therefore, combining gaze training with gameplay might help newbie esports players adapt more efficiently while gaining cognitive benefits.

Conclusion: Five weeks of gaze-based training can accelerate the reaction performance improvement of those new to playing esports. Furthermore, PVT not only improves reaction performance but also enhances in-game performance. Finally, results highlight the necessity of science-based training in esports and suggest potential applications in esports coaching and cognitive rehabilitation.

Keywords: first-person shooter, gaze training, peripheral vision, biofeedback, skill acquisition

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Advertising Returns in Esports: Media Attention, Media Sentiment, and Financial Performance of Chinese A-Share Firms

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Introduction: Advertising can attract stakeholder attention and support firm value, but its financial returns are context dependent (Joshi & Hanssens, 2010). In esports, this issue is important because firms operate in a digital-native sport market shaped by young audiences, platform communities, and interactive spectatorship (Hamari & Sjöblom, 2017). Media coverage may therefore do more than amplify advertising exposure: marketing levers can attract investor attention and shape how corporate activity is interpreted by audiences (Borah et al., 2022).

Purpose: This study examines whether advertising investment is associated with improved financial performance among esports-related firms and investigates two media-based mechanisms: the mediating role of media attention and the moderating role of media sentiment.

Methods: Using an unbalanced panel of 69 Chinese A-share listed firms engaged in esports-related businesses from 2010 to 2023, the study estimates firm and year fixed-effects regression models. Financial performance is measured by return on assets, advertising investment by annual advertising expenditure, and media attention and sentiment by firm-level news coverage. Mediation and moderation analyses test the indirect role of media attention and the conditional roles of online and print media sentiment. Robustness checks include alternative performance measures and instrumental-variable estimations.

Results: Advertising investment is positively associated with financial performance. Media attention partially mediates this relationship, suggesting that advertising is linked to firm outcomes partly by increasing media visibility. Media sentiment shows asymmetric moderating effects: favorable print media sentiment strengthens the advertising-performance relationship, whereas online media sentiment does not significantly moderate it. Additional analyses show that advertising returns are stronger among firms with more focused esports portfolios, non-state-owned enterprises, eastern-region firms, and game development firms.

Practical Implications: The findings suggest that esports firms should treat advertising not only as consumer-facing promotion but also as a strategic communication signal directed toward media and capital-market audiences. Managers should coordinate advertising investment with credible media exposure, especially through institutionalized print media channels, to improve the financial returns of advertising.

Conclusion: This study extends advertising effectiveness research to the esports industry by showing that advertising investment is linked to financial performance through media-based mechanisms. It highlights

media attention and media sentiment as important conditions shaping how advertising translates into organizational outcomes in emerging digital sport markets.

Keywords: advertising investment, firm performance, media attention, media sentiment, esports firms

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Being an Esports Fan Across Borders: An IPA Exploration of Transnational LCK Fandom

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Introduction: As esports has scaled globally, its fandom has become increasingly heterogeneous and transnational — shaped by diverse motivations, attachments, gaming experience, and platformed participation across languages and regions (Hamari & Sjöblom, 2017; Macey et al., 2025; Rietz & Hallmann, 2023; Yu et al., 2022; Jin, 2010). League of Legends Champions Korea (LCK) represents a particularly instructive site for examining this shift. As one of the popular esports leagues, LCK is broadcast in six languages and draws approximately 67% of its viewership from overseas, with global AMA reaching 255,000 in 2023 — a 22% increase from 2022 (Kim, 2023). Yet existing research has struggled to account for this complexity, remaining largely quantitative and examined in disciplinary isolation from broader cultural and transnational contexts. Recent scholarship calls for more nuanced understandings of esports fan diversity, recognising that no single model can fully capture the complexity of esports communities (Jarrett, 2024). While work has expanded to address fan motivations, points of attachment, and gendered practices (Rietz & Hallmann, 2023; Yu et al., 2022; Yin & Xu, 2023), transnational dimensions remain underexplored. LCK fandom further raises questions for Korean Wave scholarship: despite esports' positioning as a key vehicle of the New Korean Wave in South Korea's 2020 national cultural policy, it has received far less attention than other Hallyu sectors — K-pop, K-drama, K-beauty — where global fandom has been examined across diverse regional contexts. Lived-experience accounts of global fans of Korean esports remain particularly scarce.

Purpose: This study aims to explore the lived experiences of transnational LCK fans. Specifically, it asks how fans interpret their entry into LCK fandom, what meanings they attach to everyday fandom practices, and how transnational contexts of nationality and culture shape their experience of LCK fandom.

Methods: Methodologically, the study employs Interpretative Phenomenological Analysis (IPA), suited to detailed, idiographic examination of personal lived experience in complex and emotionally laden phenomena (Smith & Osborn, 2015). As part of the qualitative component of a larger ongoing mixed-methods study on global esports fandom, this paper presents an exploratory IPA case series selected from semi-structured interviews with transnational LCK fans. Following IPA's idiographic commitment to small, purposively, and carefully situated samples (Smith et al., 2022), the analysis focuses on three to five information-rich cases.

Results, Practical Implications, Conclusion: As an ongoing study, the anticipated findings will illuminate three dimensions of transnational LCK fandom through IPA's idiographic analysis: fans' pathways into fandom and identity formation; the meanings fandom holds in everyday life; and esports participation as a transnational cultural practice. By foregrounding lived experience, the study offers conceptual groundwork for understanding esports fandom beyond disciplinary isolation and contributes to the theorisation of transnational esports fandom. For leagues, industry stakeholders, and policymakers, the findings invite a reframing of esports fans as culturally situated participants in transnational fandom spaces, with implications for sustainable and culturally responsive global audience development. The study also contributes to broader conversations in esports research on fan engagement, cross-regional audience dynamics, and qualitative methodologies for studying fandom across cultural contexts.

Keywords: LCK, Esports fandom, Transnational fandom, Interpretative Phenomenological Analysis, Korean Wave

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Between Olympic Values and Esports Culture: Community Perceptions of the Olympic Esports Games

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Introduction: Following the announcement of the Olympic Esports Games (OEG) by the International Olympic Committee (IOC) in 2024, Riyadh was initially selected as the host city for the event planned for 2027. However, subsequent organizational developments and the resulting indefinite postponement of the initiative have contributed to ongoing uncertainty surrounding the future implementation of the OEG (International Olympic Committee, 2025). Despite these developments, the OEG represent a significant attempt to integrate esports into established Olympic structures, a process that remains constrained by structural barriers such as the absence of a recognized international esports governing body and contested game title selections (Jenny et al., 2024). While the initiative may contribute to the institutional recognition of esports, it has also sparked controversial discussions within gaming and esports communities. Public debates revolve around legitimacy, authenticity, commercialization, game selection and the role of traditional sport organizations in shaping esports culture. The compatibility of Olympic values and esports culture also remains contested in academic literature (Postma et al., 2022). As the value creation of Olympic esports initiatives depends on the interplay of multiple stakeholder groups (Lefebvre et al., 2024) and online communities represent a central stakeholder group (Wachholz et al., 2025) as well as a key audience of the OEG, understanding their perceptions is critical for evaluating the initiative's potential acceptance and legitimacy (Heidenreich et al., 2022).

Purpose: While initial research has explored esports fans' perceptions of the IOC's esports strategy through focus groups (Lefebvre et al., 2023), naturally occurring online discourse surrounding the OEG remains largely unexamined. Therefore, this study aims to examine how the OEG are perceived within online gaming and esports communities. Specifically, the study investigates i) prevalent community perspectives on the OEG including expectations, support and concerns, ii) perceptions of the compatibility between Olympic values and esports culture and iii) how community members negotiate tensions between esports culture and traditional Olympic structures in online discourse.

Methods: The study follows an exploratory qualitative research design. A qualitative content analysis using an inductive-deductive category-building approach will be conducted on publicly accessible online posts and comments (e.g. Reddit, X, YouTube). Data will be systematically sampled from forums and social media discussions within defined timeframes surrounding major OEG-related announcements.

Results: Data collection and analysis are currently in preparation. The analysis is expected to identify recurring discursive patterns related to legitimacy, authenticity, commercialization and the perceived compatibility between Olympic values and esports culture. In addition, the study aims to outline different stakeholder expectations regarding the role of Olympic institutions within esports ecosystems.

Practical Implications: The study is expected to provide relevant insights for organizers, governing bodies and esports stakeholders involved in the development of the OEG. Understanding how online communities perceive the OEG could support more community-sensitive communication and governance strategies. Notably, community criticism of earlier Olympic esports events has already prompted the IOC to revise its game title selections (Jenny et al., 2024). Furthermore, monitoring online discourse may help identify stakeholder expectations, potential sources of resistance and opportunities for increasing community acceptance as well as credibility.

Conclusion: The OEG represent a significant step in the ongoing institutionalization of esports within traditional sport structures. At the same time, the initiative raises questions regarding legitimacy, authenticity and the compatibility between the Olympics and esports, with the study aiming to contribute to a deeper understanding of how Olympic involvement in the esports context is perceived. In addition, the findings may provide a valuable baseline for future pre-, mid- and post-event analyses examining how community perceptions evolve throughout the implementation and potential realization of the OEG.

Keywords: Olympic Esports Games, esports community, content analysis, community perception

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Beyond Competition: Esports as a Tool for Inclusion and Growth

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Introduction: Esports and gaming culture are increasingly recognized as more than entertainment alone. Around the world, municipalities, educational institutions, tourism actors, and grassroots organizations are exploring how gaming communities can contribute to social inclusion, learning, innovation, local development, and destination-building (Taylor, 2012; Hamari & Sjöblom, 2017; Becka et al., 2024). However, there is still limited research and practical documentation on how esports can function as long-term civic infrastructure within smaller cities and public-sector frameworks. KRED Norge is a Norwegian competence and resource centre for digital culture, based in Sarpsborg, working with esports, gaming culture, inclusion, education, public-sector development, and community-based digital participation.

Purpose: This presentation explores how esports and gaming culture can be used as tools for social inclusion, workforce participation, urban development, and destination-building through the case of KRED Norge in Sarpsborg, Norway. The objective is to examine how grassroots gaming initiatives can evolve into broader community and development platforms when they are systematically aligned with municipal planning, public-sector priorities, local communities, and international networks. While existing research on esports hospitality and tourism has highlighted major international esports destinations and the role of event hosting in city branding and destination development, this case examines how a smaller city can use esports and gaming culture as long-term civic infrastructure connected to inclusion, participation, local identity, and municipal development.

Methods: The presentation is based on a qualitative, practice-led case study of KRED Norge's development between 2021 and 2026. The case sample consists of selected initiatives developed or facilitated by KRED Norge during this period, including national grassroots esports tournaments, senior esports activities, open gaming spaces, alternative education arenas, inclusive gaming programmes, event development, public-private partnerships, and international collaborations connected to esports and gaming culture. Data were collected through organizational documentation, project reports, programme descriptions, internal planning material, event records, partnership processes, practitioner observations, and reflections from practical implementation. The case also draws on experiences from ecosystem-building within a municipal context, including collaboration with public-sector actors, civil-society organizations, education providers, local communities, and international esports networks. A central methodological element is the systematic use of Sarpsborg municipality's Community Plan 2018–2030 as an analytical framework. The community plan's vision, "Together we create the city", and its three

strategic areas — “The good home place”, “Jobs for the future”, and “Experiences for life” — are used to examine how esports and gaming culture can contribute to broader municipal priorities. This includes analysing how esports initiatives may strengthen social inclusion, learning and mastery, workforce participation, innovation, local identity, civic participation, and destination development. The data are analysed through practitioner reflection and thematic interpretation. The analysis focuses on how esports initiatives are designed, implemented, adapted, and embedded within a municipal and community-based context. Rather than treating KRED Norge as a single event or project, the presentation examines it as an evolving civic ecosystem in which public-sector goals, grassroots legitimacy, physical meeting places, cross-sector partnerships, and international networks interact over time.

Results: The case demonstrates how gaming culture can contribute to several municipal development priorities. In relation to “The good home place”, KRED Norge has helped create inclusive social environments, open gaming spaces, senior esports initiatives, and alternative learning arenas that support belonging, mastery, and participation across generations. In relation to “Jobs for the future”, the case shows how gaming culture can connect young people, public actors, education providers, and local partners around digital competence, innovation, entrepreneurship, and new pathways into work and education. In relation to “Experiences for life”, KRED Norge has contributed to event development, civic pride, international partnerships, and increased visibility for Sarpsborg as a place connected to esports, digital culture, and community-driven innovation. The findings indicate that esports ecosystems can support broader goals connected to community development, youth engagement, local identity formation, destination-building, and public-sector innovation.

Practical Implications: Findings offer practical insight into how municipalities and smaller cities can integrate esports and gaming culture into broader strategies for inclusion, urban development, workforce participation, and sport tourism destination-building. The case highlights the importance of physical meeting spaces, cross-sector collaboration, grassroots legitimacy, and hospitable environments when developing sustainable esports ecosystems. It also suggests that smaller cities can use esports not only as an event format, but as a platform for participation, belonging, learning, innovation, and local growth.

Conclusion: The KRED Norge case suggests that esports can function as more than competitive entertainment. When supported through long-term collaboration, municipal alignment, and local infrastructure, gaming culture can become a platform for social innovation, community-building, and regional development. The presentation argues that smaller cities may have unique opportunities to

position themselves nationally and internationally through community-driven esports ecosystems rooted in inclusion, participation, and cultural innovation.

Keywords: gaming culture, social inclusion, urban development, destination development, community development, sport tourism, civic infrastructure

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Beyond Screentime: Differential Associations of Active and Passive Activities in Front of Screens with Mental Health in Generation Z – A Systematic Review

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Introduction: Digital media have become a defining element of everyday life for Generation Z, shaping leisure and social interaction (Cheng et al., 2025). Within this landscape, gaming and esports represent central forms of active digital engagement (Nicholson et al., 2024). However, research on the relationship between screen time and mental health remains inconclusive, partly due to the aggregation of heterogeneous media activities into a single construct (Ferguson, 2017). Differentiating between active (gaming, esports) and passive (social media, TV) forms of engagement is therefore essential to understand how digital practices shape mental health trajectories in youth.

Purpose: This study aimed to systematically compare the associations of active and passive screen time with mental health outcomes in adolescents of Generation Z, with a particular focus on gaming and esports as key forms of interactive digital participation.

Methods: A systematic literature review was conducted following PRISMA 2020 guidelines. Searches were performed in Web of Science, PubMed, and EBSCO. Inclusion criteria comprised peer-reviewed empirical studies examining active and/or passive screen time in relation to mental health among Generation Z populations. A total of 30 studies (N = 1.410.176 participants) were included and analyzed using a structured comparative approach.

Results: Passive screen time was consistently associated with negative mental health outcomes, including depressive symptoms, anxiety, psychosomatic complaints, reduced life satisfaction, and impaired sleep. These associations were frequently dose-dependent, emerging at thresholds of approximately 2-4 hours per day. In contrast, active screen time demonstrated a heterogeneous pattern. Several studies reported no significant associations, while others identified context-dependent positive effects, such as enhanced social connectedness, emotional regulation, and well-being. However, high-intensity use - particularly in esports contexts - was linked to negative outcomes, including sleep disturbances and increased psychological strain.

Practical Implications: The findings challenge reductionist “screen time minimization” approaches. Instead, interventions might prioritize reducing excessive passive consumption while promoting active, socially embedded, and purposeful digital engagement. Media literacy, context-sensitive guidelines, and

the integration of digital environments into health promotion strategies are critical. In esports contexts, attention should be given to workload management, sleep, and psychosocial support structures.

Conclusion: Screen time is not a monolithic construct. While passive media consumption is consistently linked to adverse mental health outcomes, active engagement - particularly gaming and esports - represents a complex, context-dependent practice situated between risk and opportunity. Future research and policy should move beyond quantity-based metrics toward a differentiated understanding of digital behavior that reflects the evolving role of gaming as part of nowadays youth culture.

Keywords: Screen time differentiation, Gaming and esports, Adolescent mental health, Generation Z

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Beyond the Arena: Esports Tournaments as Research Instruments

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Introduction: Esports research has grown around competitive games, players, spectators, teams, and events. Much of this work already recognizes esports as a rich cultural, social, and competitive domain. However, tournaments are often treated as objects to observe: events where players compete, spectators gather, organizations operate, and communities form. We argue that esports tournaments can also be treated as research instruments: structured competitive environments intentionally designed to support data collection, intervention, and experimentation.

Purpose: This framing is important for research on skill, expertise, performance, pressure, fairness, player experience, and their relationships to game systems and design choices. Laboratory studies can isolate variables with high experimental control, but often remove the competitive dynamics that make esports distinctive. Conversely, observational tournament research preserves authenticity, but usually provides limited control over the conditions studied. Building on calls for more rigorous experimental esports research (Campbell et al., 2024), field experiments (Harrison & List, 2004), and prior tournament-based intervention work in sport (Rowsell et al., 2009), tournament-based methods offer a similar middle ground for esports: preserving meaningful competition while allowing researchers to vary, structure, and measure aspects of play.

Methods: We ground this argument in our ongoing work on tournament-experiments: live esports tournaments in which experimental manipulations are embedded into the tournament structure itself (Madhusudan et al., 2026). Across two Rocket League pilots, we introduced controlled visual and temporal conditions while preserving bracket progression, player motivation, and match stakes. These pilots serve as methodological case studies for examining how experimental control can be introduced into competitive settings without fully removing the social and structural conditions of tournament play.

Results: Our pilots suggest that tournaments can support experimental research without disrupting player experience, but also reveal challenges for esports research. Our contribution is to treat tournament structure itself as part of the research design, rather than only as a setting for observation or intervention. Similar to field-based sport research, these methods trade some control for ecological validity, participant motivation, and competitive authenticity. Expertise, seeding, advancement, fairness, and player trust are not peripheral complications; they are fundamental components of esports competition, shaping both the tournament and the data it produces. For example, a tournament-experiment might alternate conditions within a best-of-

three match and use a balanced third game to protect advancement fairness. Alternatively, all matches could use balanced conditions while experimental contrasts are distributed across matches, preserving perceived fairness but reducing within-match comparison.

Practical Implications: Researchers should treat tournament structure as part of research design. They must ask not only what to measure, but also what to vary, what to preserve, and what kinds of fairness matter for a given study. Conditions might be assigned dynamically across rounds, stratified by seed or expertise, or adjusted to prioritize experimental balance, bracket integrity, player trust, or logistics. These choices are not simply implementation details; they shape what claims the study can support. Game developers and platform holders can support tournament-based research through administration modes, scripted condition changes, replay APIs, telemetry exports, and privacy-aware data access.

Conclusion: Our goal is to situate tournaments within the methodological toolkit of esports research. Rather than replacing laboratory, survey, or observational approaches, tournament-experiments offer a complementary method for studying competition in context. For observational studies, tournaments can support richer collection of gameplay data, player characteristics, audience behavior, and competitive context. For experimental studies, they raise questions about introducing manipulations without compromising competitive legitimacy. With better tournament-aware methods and developer support, esports scholars can build methods appropriate to the domain itself.

Keywords: tournament experiments, research methods, field experiments, competitive performance, research design

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Beyond Title-Based Classification: Developing a Functional Framework for Esports Disciplines and Transnational Governance

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Esports has developed across heterogeneous gaming ecosystems, yet competitive disciplines continue to be identified primarily by proprietary game titles or broad genre labels. Scholarship has examined esports against established conceptions of sport (Jenny et al., 2017), demonstrated persistent heterogeneity in how esports is defined (Formosa et al., 2022), and conceptualized the field as a complex ecosystem of stakeholders and governing principles (Scholz, 2020). Despite these advances, the esports discipline as an institutional unit of organized competition remains insufficiently theorized and structurally classified. If esports is treated as a distinct, sport-level domain of organized competition, a fundamental question therefore arises: how should its disciplines be distinguished beyond individual game titles? This study asks firstly, what structural principles can be derived from established sport classification systems, and secondly, whether these principles can be reformulated into a functional framework capable of classifying esports disciplines across different gaming and national ecosystems.

The study conceptualizes esports as organized human competition mediated by video games. It therefore distinguishes esports as the overarching competitive domain from proprietary game titles and treats classification as institutional ordering rather than genre labelling. It borrows the layered logic of organized sport without reproducing its categories, adapting that logic to publishers, platforms, technologies, rule changes, and culturally differentiated competition practices.

Methodologically, classification structures used by the International Olympic Committee, international federations, ASOIF, WOF, and the Olympic Council of Asia were comparatively analyzed. Recurrent features were synthesized into four layers: discipline/sub-discipline, form, rule set, and gender/age category. The analysis identified variable activation of these layers across traditional sports. Four cross-cutting criteria, functional, technological, competitive-format, and genre-related characteristic were then specified for esports. The framework was applied to 72 titles contested in official esports competitions held during 2024 across Korea, China, Japan, Southeast Asia, the Middle East, the USA, Canada, and Europe.

The findings show that title-based classification obscures structural comparability across games and regions. MOBA and FPS titles clustered around functional and competitive format characteristics, hybrid titles required combinations of layers, and VR/AR formats were differentiated primarily through technological criteria. Variable layer activation accommodated heterogeneous competition forms without making publisher ownership or individual titles the basis of discipline recognition.

This study argues that esports classification requires both a common functional framework and an institutional process of coordination. The architecture provides a shared basis through which national discipline organizations and relevant stakeholders can compare, negotiate, and recognize esports disciplines. Transnational governance is therefore required to coordinate these deliberative processes while accommodating social, technological, and cultural differences among national ecosystems. Such a framework can create the institutional conditions for diversity, inclusion, cross-regional recognition, and the sustainable expansion of emerging esports formats.

Keywords: esports disciplines, classification, transnational governance, sport classification, institutional ordering

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Bridging Collegiate Values: Understanding the Global Positioning of Collegiate Esports Teams, Degrees, and Schools

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Introduction: As esports becomes increasingly visible across university campuses (Parshakov & Barajas, 2024), university-supported varsity programs are giving way to esports-forward institutions like the University Campus of Esports (London, UK) and Tokyo College of Anime and E-Sports (Tokyo, Japan). Collegiate esports clearly enjoys widespread interest among diverse stakeholders: student-athletes, academics, investors, and more. However, institutions are still trying to understand esports' place on campus, especially amid more well-entrenched financial and cultural power stemming from traditional sports (Zhong et al., 2024), regardless of specific national peculiarities (e.g., Foxman et al., 2024). Scholarship points to positive student or institutional outcomes when esports programs are cultivated—for example, a greater sense of belonging within one's campus community or enhanced university branding—but such literature tends to concentrate on North American experiences (Buzzelli & Draper, 2021; Cote et al., 2024).

Purpose: This study investigates and compares how an array of esports-focused institutions worldwide present and promote their esports degrees (e.g., production, business, medicine), varsity programs, or esports clubs. We aim to uncover how institutions situate esports within their unique cultures, how they position it to potential players, students, and other stakeholders, and how these patterns vary globally. This work is a deliberate effort to redirect academic attention toward collegiate esports' ongoing growth and institutionalization beyond North America.

Methods: This research takes a case study approach, first identifying key institutions (e.g., esports-specific schools and academic programs, highly promoted competitive collegiate teams), then analyzing their esports-related webpages. Using inductive thematic analysis (Clarke & Braun, 2017), we identify general descriptive information (e.g., majors and degrees offered, number of teams/players, games played, etc.) and assess descriptions of esports' role in student life, testimonials from student-athletes or staff, and other relevant information. Collectively, we will show how value statements that universities employ to justify their esports investments shape esports' broader cultural status and positioning.

Expected Results: Collegiate esports provide an exciting opportunity to engage students, alumni, fans, and even potential investors (Lee & Lee, 2026; Jenny et al., 2025). Our initial analyses suggest that universities also frame esports degree programs as essential to preparing students for future-facing careers in the

creative and media industries, such as broadcasting and event management. However, much of collegiate esports' growth occurred during an overall gaming boom fueled by the COVID-19 pandemic, a period now tempered by an industry-wide contraction (colloquially, the "esports winter"; see Levine et al., 2026). As such, how collegiate esports significance is framed during this challenging moment may be a bellwether for the field's long-term success.

Practical Implications & Conclusion: Understanding how universities frame the value of esports will allow us to evaluate its potential resilience and enable meaningful cross-cultural comparisons. This work will also help program directors, fans, and players to identify additional value propositions to promote their own work. Finally, academics will be able to critically assess esports' wider institutionalization, structures, and the symbolic capital (Bourdieu, 1989) it provides to different participants.

Keywords: collegiate esports, esports institutionalization, global perspectives, symbolic capital, inductive thematic analysis

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Bridging Esports Futures: Panel on Worldwide University Esports Competition Structures

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Introduction: While the professional-level esports ecosystem continues to mature and adopt best practices, competitive structures of collegiate/university esports vary widely across educational institutions, leagues, and game titles internationally.

Purpose: The primary objective of this panel is to compare university esports competition structures from North America, Europe, and Asia, focusing on multi- and single-game title structures, varying organizational models of university esports programs, and challenges and opportunities within university esports globally.

Methods: This is a moderated panel discussion incorporating existing research on the worldwide university esports ecosystem. University academic and industry esports practitioners from North America, Europe, and Asia will discuss shared and contrasting experiences. Published descriptive and correlational statistical research on university esports will also be shared and discussed.

Results: University-specific tournaments, leagues, or conferences exist in the United States, Canada, Mexico, Netherlands, France, Croatia, Germany, United Kingdon, South Korea, Australia, among others (Jenny, 2025). Worldwide there is a lack of standardization as competitive structure varies widely across regions and within single countries. In North America alone, it is estimated there are over 2,000 collegiate/university esports programs, with over 70 entities of athletic conferences, esports leagues, and game-specific tournaments that compete to organize and govern competitions across fragmented and overlapping structures (Jenny & Sharpe, 2025). Despite being the most established region, North American universities differ in their purpose for supporting esports and the benefits institutions receive (Jenny et al., 2025). Factors for why the North American university esports ecosystem is significantly larger vary, but the school-sports model compared to the club-based sports model outside North America is likely the greatest factor. Another reason, for example, is that some universities tend to favor supporting esports education academic curriculum rather than university-sponsored competitive teams, such as the case in South Korea (Chang, 2022). Research from university students on perceptions of esports differ globally; Italian students were found to believe participation in esports negatively impacted other aspects of their lives while American students did not perceive esports as taking away time from other activities (Delello et al., 2023).

Practical Implications: Panel discussion points will emphasize how fragmented and confusing collegiate/university esports competition structures worldwide hinder growth and adoption, underscoring the need for organizers and publishers to consolidate and create a more sustainable ecosystem. Practical suggestions surrounding utilizing the School-based Esports Model to help solve the Esports Pipeline Problem relating to Esports Pathways to Pro (Jenny, 2024) will also be discussed.

Conclusion: Much like its professional counterpart, university esports competition is being supported globally. Due to key cultural differences, university esports competition thrives in the United States and Canada and is less supported in locations such as Italy or South Korea, but is trending upwards in countries like the United Kingdom. More research is still needed to note growth rates in other global regions, but it is expected that the number of universities supporting esports competition worldwide will increase, particularly in Asia.

Keywords: collegiate esports, university esports, higher education, events, leagues, competition structures

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Bridging Gaming Hardware and Hospitality Experience in Esports Hotels: An Empirical Investigation

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Introduction: As esports culture rapidly diffuses across Asia, esports hotels have emerged as a technology-enabled lodging format that integrates high-performance gaming hardware (notably GPUs) into guest rooms. Prior research has emphasized their emotional and symbolic appeal (Babar & Zhao, 2025; Zhang et al., 2025), yet it remains unclear whether high-end hardware configurations create value equally across different guest needs.

Purpose: Drawing on Task-Technology Fit theory, which posits that user outcomes hinge on the alignment between technology features and task demands (Goodhue & Thompson, 1995), this study examines how GPU performance shapes customer satisfaction in esports hotels and whether this effect is contingent on travel purpose, conceptualized as the underlying task.

Methods: We collected 5,241 consumer reviews of esports hotels across 10 major Chinese cities from Ctrip.com. SnowNLP and an AI-agent (DeepSeek and ChatGPT combined) re-scoring procedure were used to generated sentiment-based evaluations for five review-derived dimensions: service, hygiene, location, facilities, price–experience value. GPU configurations extracted from room descriptions were coded on a 15-point performance scale. Linear and quadratic regressions, controlling for city, room capacity, and hotel rating, were estimated for the pooled sample and across travel-purpose subsamples.

Results: In the pooled model, hygiene ($\beta = 0.170$), facilities ($\beta = 0.167$), service ($\beta = 0.071$), and GPU configuration ($\beta = 0.060$) positively predicted satisfaction at $p < 0.01$ or better. Subsample analyses uncovered marked heterogeneity: GPU configuration exhibited an inverted U-shaped effect for couple travelers (linear $\beta = 0.164$, $p < 0.01$; quadratic $\beta = –0.126$, $p < 0.05$), a positive linear effect for business travelers ($\beta = 0.100$, $p < 0.05$), and no significant effect for solo or friend-group travelers. Hygiene and facilities continued to drive satisfaction across subsamples, except among business travelers.

Practical Implications: Hardware upgrading is not universally value-adding: esports hoteliers should align GPU tiers with the dominant task profiles of their guest segments. Couple-oriented properties stand to benefit more from mid-range GPUs paired with ambience investment, whereas business-segment hotels gain from sustained GPU escalation. Hygiene and facilities remain consistent drivers of satisfaction across most traveler groups, underscoring the continued importance of core hospitality fundamentals.

Conclusion: Hardware contributes to esports hotel satisfaction, but its marginal value depends on the fit between hardware capability and travelers' tasks. The inverted-U effect among couples implies that excessive digital immersion may erode the physical co-presence central to relational travel. This study extends esports research into everyday hospitality settings, showing that more technology does not always create more value.

Keywords: Esports hotels, Gaming hardware, Customer satisfaction, Hospitality, Heterogeneity

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Bridging Generations Through Play: Exploring Older Adults' Experiences with Esports

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Introduction: The last few years, esports have started becoming popular among older individuals (Onishi et al., 2022). Gaming has been associated with stress relief (Yeh, 2021), skill-building (Sardi et al., 2017), improved attention and focus (Yu & Chan, 2021), and fostering more social connectedness (Soares et al., 2022). A better understanding of how esports function as a leisure-based platform may offer the potential to foster intergenerational interaction, build confidence with emerging technologies, and reduce barriers to participation among older adults.

Purpose: The purpose of this study was to explore how participation in a structured esports program effected older adults' perceptions of gaming, confidence with technology, and opportunities for intergenerational social engagement.

Methods: Grounded in leisure theory, this mixed-method study was conducted with five older adults. The group consisted of three men and two women with an average age of 68. Participants engaged in a six-week workshop developed in partnership with a local senior center. The workshop introduced participants to Rocket League through structured gameplay sessions, spectator experiences, and guided group discussions. Data collection included pre and post workshop surveys, participant observation, and a focus group. Qualitative data were transcribed, member-checked, and thematically analyzed to better understand participants' lived experiences and meaning-making processes related to esports participation (Charmaz, 2014; Saldana, 2012). Data analysis examined changes in attitudes, knowledge, and social confidence regarding gaming and esports using paired-samples t-tests on seven Likert-scale survey items. Due to the exploratory nature of the study and limited sample size ($n = 5$), statistical power was constrained and no findings reached conventional significance levels ($\alpha = .05$). Cohen's d effect sizes were used as indicators of practical meaningfulness.

Results: Findings supported the idea that esports functioned primarily as a relational and cultural bridge rather than solely as a competitive activity. Participants expressed motivation not only to improve gameplay skills but also to better understand and communicate with children and grandchildren. Initially, the group experienced some barriers. Confidence in gaming and comfort increased throughout the workshop due to repeated exposure, structured instruction, and the maintenance of a supportive, low stakes learning environment.

Practical Implications: This study highlights the importance of intentional program design when implementing esports programming for older adults. Psychological safety, accessibility, structured facilitation, and opportunities for social interaction were critical components for supporting participant engagement and retention. Findings show esports programming could potentially provide recreation professionals, senior centers, and community organizations a tool for promoting digital inclusion, intergenerational engagement, and social well-being among aging populations.

Conclusion: Positioned within the growing global esports and gaming landscape, these findings point towards the possibility that esports may serve as a platform for intergenerational connection, social engagement, and meaningful participation among older adults. This contributes to the emerging insight into the role of esports in supporting well-being, digital inclusion, and community development for aging populations.

Keywords: older adults, intergenerational engagement, leisure, Rocket League, technology confidence

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Bridging Silver GAKU Games to the Nordic North: Cultural Translation of an Asian Esports-for-Elderly Programme

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Introduction: Demographic ageing is reshaping Nordic societies, and with it the demands placed on welfare systems, communities, and the digital lives of older adults. Loneliness, sedentary behaviour, and digital exclusion among seniors are well-documented public-health concerns. Esports and digital gaming have emerged as plausible, but unevenly tested, instruments for cognitive engagement, learning, and social connection in later life. Asian initiatives such as Silver GAKU Games in Japan and Singapore illustrate a coherent format: structured esports days that combine programming-based cognitive titles such as Puyo Puyo Programming with intergenerational play and community building. These initiatives operate, however, in cultural settings where seniors are comparatively tech-curious and embedded in long-standing console and arcade ecosystems.

Purpose: This conceptual contribution proposes the cultural translation of Silver GAKU Games to the Nordic elderly context. The guiding question is straightforward: how do culturally specific attitudes toward technology, ageing, and competition reshape engagement with structured esports interventions when an Asian senior programme is transplanted to a Nordic welfare-state setting?

Methods: The paper is conceptual and design-stage. Drawing on Hofstede's cultural dimensions and established frameworks of technology acceptance among older adults, the Silver GAKU Games architecture is mapped onto Nordic socio-cultural conditions: individualism, low power distance, an egalitarian welfare model, and historically modest senior gaming uptake. A planned quasi-experimental pilot at the University of Agder will use pre-/post-intervention measures of digital self-efficacy, loneliness, and well-being, alongside semi-structured interviews and observational ethnography. The adapted programme centres on programming-based esports formats, scaffolded learning, and intergenerational play.

Results: As the study is in design, findings are anticipated rather than observed. The expectation is lower baseline engagement and higher technology anxiety than reported in Asian pilots, with adoption gains concentrated in cognitive-learning and intergenerational modules. Competitive tournament framing is likely to require recalibration; cooperative, narrative, and reminiscence-based formats are anticipated to outperform bracket-style structures. The programming-as-play angle is hypothesised to function as a culturally acceptable bridge between scepticism and engagement among Nordic seniors.

Practical Implications: The work is intended to deliver a culturally sensitive blueprint for transferring Asian esports-for-elderly programmes into Nordic welfare-state contexts. Municipalities, care providers, and esports organisations developing silver-gaming offers stand to benefit, as do publishers and platforms looking beyond their established Asian core. Programming-driven titles, in particular, are identified as an underexplored entry point for hesitant senior audiences.

Conclusion: Transferring esports-for-ageing programmes across cultural contexts is not a question of replication but of cultural translation. The Silver GAKU Games case offers a productive lens through which to examine how gaming heritage, infrastructure, and senior attitudes co-shape esports futures. Thereby, extending the ERN 2026 theme from inter-regional dialogue to inter-generational practice.

Keywords: Silver esports, Cultural translation, Active ageing, Nordic welfare state

Can gaming content creators support good health? Lessons from an Australian anti-vaping campaign

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Introduction: Gaming cultures are often broadly examined through a deficit perspective in health research and policy. Online gaming has been associated with sedentary behaviour, problematic use, and exposure to unhealthy commercial marketing (Chan et al., 2022; Pontes et al., 2022). This framing, however, can obscure the complexity of game-streaming and esports communities, which can include multiple influences on health (Micallef et al., 2022). Gaming streamers, content creators who build communities through live gameplay, do not only mediate game-related discussion. Previous research has shown that streaming communities also host organic conversations about everyday practices, including food, drink, and health (Micallef et al., 2024). While these spaces remain important targets for unhealthy commercial marketing (Roscoe et al., 2023), they may also provide opportunities to promote good health.

Purpose: This study examines that possibility through an Australian case study of an influencer-led anti-vaping campaign, run by the Australian Government (Department of Health and Aged Care, 2024). Within the broader campaign, this case study focuses on the role of two gaming content creators, Jack Buzza and HeyImZed, to engage their audiences via Twitch, Instagram and TikTok, with content created for the campaign. Through this analysis, this study aims to understand the role that gaming content creators can play in engaging young gamers in health messages.

Methods: The study draws on a qualitative analysis of comments posted in response to the campaign content created by both gaming creators, analysis of audience comments from livestreams and semi-structured interviews with the content creators. Data was analysed using thematic coding. Audience comments were also analysed using the Uses and Gratifications Theory (UGT) to understand the gratifications being performed by audiences in engaging with the content.

Results: Findings suggest that gaming content creators have the potential to act as health champions when public health messages are adapted to the norms, humour, language, relational and content expectations of their communities. Through a process of vernacular authentication, content creators translate institutional health messages into culturally recognisable forms that engender trust, credibility and engagement. In this case, anti-vaping messages were not simply repeated verbatim by creators, but were reframed through gaming references. This led to direct audience engagement with the content, the creator and the anti-vaping messages.

Practical Implications: The case study also suggests that gaming content creators can be seen as socio-ecological interventions, rather than simple influencer marketing. It suggests that gaming content creators' embedded role within their communities, their repeat interactions, peer discussions and shared cultural codes, allows them to engage deeply with their communities. This creates opportunities for targeted public health interventions in spaces that reach young audiences, but needs careful management to preserve creator and community authenticity.

Conclusion: Our study contributes to broader debates about health and wellbeing in gaming, and responsibility in gaming and esports cultures. It also opens up opportunities for established gaming structures, such as esports, to engage with governments, public health institutions and their communities to coordinate responses to both local and global health issues.

Keywords: streaming, health promotion, vaping, content creators

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Cardiovascular reactivity and body movement patterns during CS:GO gameplay: A secondary analysis of the CEPAV dataset

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Introduction: Organized competitive video gaming, or esports, typically occurs in a sedentary behavior (seated position with low energy expenditure) even in the presence of elevated event heart rate (HR) (Zimmer et al., 2022). There is elevated cardiovascular risk from prolonged sitting exposure during psychological stress (Yamagata et al., 2022).

Purpose: This study aims to explore the relationship between accelerometer-derived human movement patterns and cardiovascular reactivity during competitive video gaming.

Methods: Baseline data from the Competitive Esports Physiological, Affective, and Video (CEPAV) dataset (Behnke et al., 2025) from the Open Science Framework website included three phases with 2-minute summaries: 1) pre-match, 2) Counter Strike: Global Offensive (CS:GO) gameplay, and 3) recovery. Accelerometers (Actigraph) were used to determine wrist (WM) and thigh (TM) vector magnitude counts per minute. HR beats per minute (bpm) and heart rate variability (HRV; root mean square of successive differences in milliseconds) were collected with the Vrije Universiteit Ambulatory Monitoring System. Players self-reported rank and competition experience. Mixed model ANOVA were performed with Bonferroni correction in pairwise comparisons for phase and experience.

Results: This secondary analysis included 299 male CS:GO players with rank spanning across 18 levels and four categories of competition experience (none=200, local=76, national=17, international=6). Player WM significantly increased by 19% during gameplay (η^2p=.024, p=.007) with no differences between pre-match and recovery, and no significant relationship in TM across phases (p=.884). There was a significant phase by experience interaction for HR (η^2p=.026, p=.019). On average, gameplay HR increased 4.1 bpm and 7.4 bpm relative to pre-match (81.0 bpm) and recovery (77.6 bpm), respectively. Interestingly, there was a significant reduction in HR and an increase in HRV between pre-match and recovery with no differences in body movement.

Conclusion: Elevated WM during gameplay remained below thresholds for a light-physical activity classification (Montoye et al., 2020). Elevated HR during gameplay and HR/HRV rebound patterns during recovery are consistent with parasympathetic reactivation following psychological arousal of gameplay.

Practical Implications: Even brief competitive video gameplay sessions outside of tournament settings are subject to measurable sympathetic and parasympathetic reactivity during the relatively sedentary behavior.

Keywords: heart rate variability, sedentary behaviour, accelerometry, CS:GO, cardiovascular reactivity

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Changing Narratives of Gamers in Quebec Newspapers Before, During, and After the COVID-19 Pandemic

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Introduction: Media framing is defined as the way media structure issues and influence public perception by how they represent social groups (Entman, 1993; Guo et al., 2025). Media portrayals of video game players fluctuate between stigma and cultural recognition (Brunborg et al., 2013; Barr & Copeland-Stewart, 2022), influencing public perceptions of gamers (Kümpel & Haas, 2016). Media representation therefore contribute to the creation of stigma (Sallabank et al., 2022).

Purpose: COVID-19 amplified some media narratives surrounding video games (Brückner, 2024). During the pandemic, video games experienced a surge, sparking both concerns and positive reassessment (Barr & Copeland-Stewart, 2022). However, the media representation of gamers in Quebec has not been studied yet. An earlier version of this project presented preliminary findings based solely on article titles. The current study analyzes the final dataset using full-text articles and comprehensive statistical analyses to examine how gamers were portrayed before, during, and after the pandemic in Quebec.

Methods: The corpus consisted of 289 print media articles selected from an initial sample of 446 published in major Quebec newspapers. Two periods were examined: pre-pandemic (n = 161; December 23, 2017–March 12, 2020) and pandemic/post-pandemic (n = 128; March 13, 2020–August 20, 2024). Sentiment analysis assessed changes in emotional polarity, while correspondence analysis identified characteristic lexical associations across periods to understand the evolution of media representation.

Results: The final statistical analyses revealed an evolution in lexical associations across the different periods examined. During the pandemic period, the vocabulary was more strongly centered on esports and cyberaddiction-related concepts ($\chi^2 = 3292.3$, $p < .001$; inertia = 0.158; Cramer's V = 0.141). In contrast, the pandemic and post-pandemic periods were characterized by lexical associations that shifted toward business-oriented and social-related terminology ($\chi^2 = 2846.6$, $p < .001$; inertia = 0.143; Cramer's V = 0.143). Finally, sentiment analyses also revealed an overall shift in the emotional valence of the terms used, including changes in both positive and negative sentiment.

Practical Implications: Combining sentiment and correspondence analyses provides a comprehensive framework for understanding how media discourse evolves over time and influences public perceptions, the stigmatization of gamers, and the social legitimacy of video games and esports.

Conclusion: The findings demonstrate significant lexical and emotional shifts in media representations of gamers across the pandemic period.

Keywords: media framing, gamer stigma, COVID-19, sentiment analysis, Quebec press

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Classifying E-Doping in Esports: A Scoping Review of Competitive Integrity Risks

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Introduction: Esports has grown rapidly and is now considered one of the most popular forms of digital entertainment (Cranmer et al., 2021), with competitive video gaming attracting mainstream broadcasting attention (Holden et al., 2017). This rapid professionalisation has surfaced distinctive integrity and regulatory challenges, including the absence of a unified governance framework (Kelly et al., 2022; Martinelli, 2019). Among these challenges is e-doping, defined by Hwang (2022) as "the use of hacks and cheats during e-sports games" (p. 1283)—a phenomenon that existing regulatory frameworks remain ill-equipped to address (Rana & Parsai, 2023). A systematic mapping is needed to support coherent scholarly and governance responses.

Purpose: This scoping review asks: (1) how documented forms of e-doping can be systematically structured; (2) what patterns emerge across platforms, genres, and technical layers; and (3) what research gaps remain for esports integrity governance.

Methods: A systematic search across multiple databases covering 2000-2024 returned 4,158 records. After duplicate removal, title-and-abstract screening, and full-text eligibility assessment, 61 peer-reviewed studies were included. Data were extracted and synthesised using Webb and Soh's (2007) four-level technical taxonomy—Game, Application, Protocol, and Infrastructure—alongside sport-ethics concepts of intentional rule violation, deception, and fair play.

Results: The review identified 82 e-doping codings. Application-Level methods dominated (n = 59), including aimbots, wallhacks, bots, macros, recoil scripts, memory manipulation, and speed-hacks. Protocol-Level methods followed (n = 12), including DDoS, packet tampering, interception, and lag switching. Infrastructure-Level threats (n = 6) included modified peripherals, NFC/object-based manipulation, mobile hardware exploits, and mechanical robo-doping. Game-Level e-doping was least represented (n = 5), consisting mainly of bug, glitch, and infinite-combo exploitation. Publication output accelerated from 2021 onward, with 44.3% of the corpus published between 2021 and 2024. The literature also showed a pronounced PC bias (86.9%) and methodological concentration in technical and experimental studies (57.4%), leaving mobile, console, and specialised-hardware esports underexamined.

Practical Implications: The taxonomy gives tournament organisers, publishers, anti-cheat developers, integrity bodies, federations, and policy actors a shared map for locating e-doping risks and matching

countermeasures to the affected technical layer. It also shows that detection alone is insufficient; governance, ethical education, and forensic capability must develop alongside technical safeguards.

Conclusion: E-doping is a significant integrity challenge for organised digital competition. This review establishes a conceptual and taxonomic foundation for interdisciplinary work across computer science, sport ethics, governance, and digital forensic science. Future research should prioritise mobile and console platforms, longitudinal analysis of cheat persistence, qualitative work on motivation, and forensic interpretation of digital traces.

Keywords: e-doping, esports integrity, fair play

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Complexity in Control: Evaluating FPS-Performance using Mouse-Movement Sample Entropy

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Introduction: Esports performance depends on precise and adaptable sensorimotor control (Jeong et al., 2026), yet objective assessment is often limited to task-specific performance scores. While such scores indicate success within a given task, they may not fully capture the structure of underlying motor control processes. Sample Entropy (SaEn) provides a nonlinear measure of movement regularity and has been used to detect subtle changes in sensorimotor and coordinative control across motor tasks (Gao et al., 2026; Wachholz et al., 2019). Therefore, SaEn might be used to evaluate the sensorimotor and coordinative control of high-and low-skilled esports players.

Purpose: This study examined whether SaEn derived from mouse-movement time series differs between high- and low-skilled FPS players and whether SaEn is sensitive to task-specific demands such as difficulty and duration. We expected expertise-related differences in mouse-movement complexity and higher SaEn under more demanding task conditions.

Methods: Fifteen FPS players were categorized as high-skilled (top 20%; n = 8) or low-skilled (below top 50%; n = 7). Participants completed four randomized AimBooster conditions: 1-min moderate, 2-min moderate, 1-min hard, and 2-min hard. Each condition was repeated five times. Moderate trials spawned 2.5 targets/s, whereas hard trials spawned 3.0 targets/s. Continuous mouse-position data were recorded in MATLAB. For each trial, mouse-movement data were segmented using start and end markers, resampled to 15 Hz, and the final 20 seconds of each trial were extracted. SaEn was calculated for horizontal movement, vertical movement, movement speed, and combined x-y movement using $m = 2$, $r = 0.20 \times SD$, and $\tau = 1$. Linear mixed models were used to test effects of skill group, situation, trial order, and the Group × Situation interaction, with random intercepts for participants.

Results: Across all SaEn outcomes, there was a consistent main effect of situation (all variables $p < .001$). Hard conditions showed higher entropy than moderate conditions, indicating more complex or less regular mouse-movement dynamics under increased task difficulty. This pattern was especially clear for combined x-y movement entropy, where post-hoc comparisons showed significantly higher SaEn in hard to moderate comparisons ($p < .001$), independent of time. In contrast, no significant main effect of skill group emerged, and the Group × Situation interaction was not significant. High-skilled players descriptively showed higher SaEn in several conditions, these differences were not statistically reliable.

Practical Implications: SaEn appears to be more sensitive to task-specific demands than to skill group differences in this sample. In light of these points, SaEn has the potential to be used as a metric for evaluating and adjusting the difficulty in esports (e.g., balancing). In esports, the standardized indicators for evaluating difficulty have yet to be established; SaEn may provide useful information about balancing in esports. Furthermore, since SaEn has been widely used to evaluate the complexity of human movement (Wachholz et al., 2019), it has the potential to understand the complex movements of esports players. Furthermore, it may be useful to evaluate both the mouse and keyboard movements to provide a better understanding of coordinative control across motor tasks in esports.

Conclusion: Mouse-movement entropy reflects changes in task difficulty during FPS aiming tasks, but did not reliably distinguish high- from low-skilled players. SaEn may therefore be valuable as an indicator of situational movement complexity rather than as an isolated marker of player expertise.

Keywords: sample entropy, mouse movement, sensorimotor control, expertise, first-person shooter

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Daily Adherence and Barriers to Physical Exercise in Esports Athletes: A 30-Day Diary Study

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Introduction: Balancing structured positive effects of physical exercise (PE) (Warburton & Bredin, 2017) with intensive esports practice, could play a central role to the future sustainability of competitive gaming (McNulty et al., 2021). Translating intentions into action might hinge on dynamic self-regulation rather than static traits (Schwarzer et al., 2011), underscoring the need for within-person designs and process-oriented approaches in esports contexts.

Purpose: This study examined i) the extent to which semi-professional esports athletes adhere to planned PE sessions over 30 days, ii) how situational barriers influence execution, and iii) how daily confidence and barriers predict within-person fluctuations in adherence.

Methods: Eighteen semi-professional players completed a 30-day diary while following a structured high-intensity interval training (HIIT) program (≥3 sessions/week, self-regulated intensity). Daily entries captured planned PE, completion (full/partial vs. none), barriers (multiple selections), prospective confidence (1–10), and other physical activity. Analyses focused on days with planned sessions. Generalized linear mixed models with random intercepts for participants tested daily adherence, decomposing confidence into within- and between-person components to isolate day-level from person-level effects.

Results: Participants planned 239 sessions and completed 114, yielding 47.7% adherence with substantial within- and between-person variability. The final model showed that both within-person and between-person confidence predicted a higher likelihood of session completion. Adding situational barriers significantly improved fit. Time constraints markedly reduced adherence odds (OR = 0.27) as well as illness (OR = 0.19) Work/study obligations showed a negative trend. Sensitivity analyses with lagged adherence corroborated the robustness of confidence and time constraints as primary predictors.

Practical Implications: To strengthen daily self-regulatory capacity, building task-specific self-efficacy and developing concrete barrier-coping strategies during the volitional phase of behavior change should be focused, to translate intentions into action. At the same time structural frictions should be reduced by offering flexible, short sessions and aligning PE with existing esports routines to ease time constraints and competing obligations. PE was in general rated positively by the participants.

Conclusion: Adherence to structured PE in semi-professional esports is driven primarily by day-level confidence and situational barriers rather than stable person-level characteristics. Within-person approaches reveal that enhancing prospective confidence and reducing time-related obstacles are high-yield levers for consistent PE engagement. These insights inform how clubs and practitioners can bridge tradition (intense in-game practice) with tomorrow's integrated performance models by embedding adaptable, self-regulation–oriented PE within esports training ecosystems.

Keywords: competitive gaming, compliance behaviour, perceived obstacles, self-efficacy, high-intensity exercise

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Digital Slopes? Children's Preferences for Digital Assets and Esports in Future Ski Holidays

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Introduction: Generation Alpha is growing up in a highly digitalized environment in which gaming, artificial intelligence, interactive media, and esports are increasingly embedded in everyday leisure experiences (Stylos & Bellou, 2025; Thompson et al., 2022). At the same time, traditional winter tourism destinations face the challenge of remaining attractive to young future guests. Understanding how children imagine a future ski holiday can provide valuable insights for the development of child-centered, innovative, and digitally enhanced tourism products (Poria & Timothy, 2014; Rhoden et al., 2016).

Purpose: This exploratory study investigates how children of Generation Alpha envision future ski holidays, focusing on the role of digital assets, digital activities, and gaming- and esports-related elements. The aim is to identify which types of experiences are perceived as attractive by children and how these preferences can inform the design of future ski tourism offerings.

Methods: A child-friendly pre-study questionnaire was developed in which children evaluated AI-generated images using a five-point smiley scale. The images represented four categories: ski world, ski school, hotel, and youth room. Within these categories, the images included traditional ski-related settings, digital assets and activities as well as elements with gaming and esports reference. After data cleaning, the final sample consisted of 963 valid responses. For analysis and subsequent game design, two age groups were formed: children aged 6-10 and children aged 11-16. Based on age-specific preferences and asset rankings by mean values, a mobile game is being developed as a fully gamified questionnaire. The selectable assets differ slightly between the two age versions to match children's expressed interests.

Results: The pre-study provides initial evidence that Generation Alpha does not perceive ski holidays solely as traditional winter sport experiences, but as hybrid leisure environments combining skiing, play, digital interaction, and social spaces. Preliminary factor-analytical approaches suggest the emergence of different ski holiday types among children. For example, "Adventurers" show a strong interest in skiing-related experiences such as ski cross, forest trails, and fun parks, while "Gamers" are attracted by gaming and esports-related assets such as gaming gondolas, ski game apps, or ski goggles with live performance data.

Practical Implications: The findings offer practical guidance for ski resorts, hotels, ski schools, and destination managers seeking to develop future-oriented products for young guests. Digital assets should not simply be added as isolated entertainment features, but should be meaningfully connected to the physical ski holiday experience. The identified preference patterns can support more targeted product

development, such as adventure-based ski areas, digitally enhanced learning tools, interactive youth rooms, and gaming and esports-inspired social spaces. Furthermore, the gamified survey approach demonstrates how research with children could be designed in a playful, engaging, and methodologically appropriate way.

Conclusion: This study contributes to a better understanding of Generation Alpha's expectations of future ski holidays. The results indicate that digitalization may play an important role in shaping attractive winter tourism experiences for children. By combining survey-based insights with a gamified research design, the study provides both theoretical and practical foundations for developing more childcentered, innovative, and future-ready ski tourism offerings.

Keywords: Generation Alpha, ski tourism, digital assets, children's preferences, experience design

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Distinct Health Profiles Among Esports Players: A Latent Profile Analysis of Health Indicators and Health-Related Behaviors

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Introduction: Esports has become a major competitive and recreational activity worldwide, making players' health an increasingly important research topic. Previous studies have typically focused on isolated health indicators such as physical activity, sleep, or mental health, providing only a fragmented understanding of esports players' health.

Purpose: The present study aimed to identify distinct health profiles among esports players by simultaneously considering multiple health indicators and health-related behaviors.

Methods: A cross-sectional online survey was conducted among 413 esports players (83.5% male; M_age = 24.0 years, SD = 7.3) from 48 countries. Variables included body mass index (BMI), physical activity (Godin Leisure-Time Exercise Questionnaire), smoking behavior, alcohol consumption, depressive symptoms (Patient Health Questionnaire-9), sleep quality (Pittsburgh Sleep Quality Index), and perceived social support (Multidimensional Scale of Perceived Social Support). These indicators were selected to represent multiple dimensions of physical, mental, behavioral, and social health. Latent Profile Analysis (LPA) was applied to identify subgroups of players with similar health characteristics. Subsequently, profiles were compared with regard to demographic and esports-related characteristics, including age, gender, competition level, geographical region (Europe vs. non-Europe), and esports genre.

Results: A four-profile solution provided the best balance of statistical fit, interpretability, and profile size. The identified profiles were labeled as (1) Psychologically vulnerable (19.6%), (2) Average health (37.8%), (3) Healthy and active (28.6%), and (4) Behavioral risk (14.0%). Profiles differed significantly across all health indicators and health-related behaviors (all $p < .01$). The largest between-profile differences were observed for smoking behavior ($\eta^2 = .869$), depressive symptoms ($\eta^2 = .287$), alcohol consumption ($\eta^2 = .169$), and perceived social support ($\eta^2 = .138$). Compared with all other profiles, the Healthy and active profile reported the lowest depressive symptoms (M = 2.74, SD = 2.33), the lowest alcohol consumption (M = 0.07, SD = 0.25), the highest perceived social support (M = 6.02, SD = 0.71), and the lowest BMI (M = 23.0, SD = 3.04). In contrast, the Behavioral risk profile was characterized by substantially elevated smoking behavior (M = 5.64, SD = 1.88). Notably, the Psychologically vulnerable and Healthy and active profiles reported similarly high levels of physical activity but differed markedly in

depressive symptoms, sleep quality, social support, alcohol consumption, and BMI. Furthermore, profile membership differed significantly according to age, gender, and esports genre, but not by competition level.

Practical Implications: Health promotion in esports should be guided by multidimensional screening that captures combined physical, mental, behavioral, and social health patterns. Such screening may help practitioners, teams, and esports organizations identify distinct support needs and tailor interventions more effectively. This is particularly important because players with similar physical activity levels may still differ substantially in depressive symptoms, sleep quality, social support, BMI, and substance-related behaviors.

Conclusion: The findings indicate that esports players are not a homogeneous population regarding health and health-related behaviors. The identified profiles highlight the coexistence of both protective and risk-related health patterns and suggest that single indicators, such as physical activity, provide only a limited understanding of players' broader health status.

Keywords: Esports, Latent Profile Analysis, Mental Health, Physical Health, Social Health

Do Generative AI and Esports Mix: A Look at the Student-Athlete Perspective

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Introduction: Generative AI (gen AI) has become increasingly ubiquitous in everyday culture, permeating students' academic and professional lives. It has emerged as a lightning rod issue, with public perception shifting notably in recent years. The 2025 Stanford HAI AI Index Report notes a particularly pronounced divergence in the United States, where a majority of the public perceives AI as posing high societal risk, while far fewer recognize its potential benefits (Maslej et al., 2025). Growing negative sentiment, amplified by social media, network television, and mainstream news outlets, continues to shape public opinion and may also influence student-athletes (Ryazanov, Öhman, and Björklund, 2025). Esports, as a rapidly evolving discipline at the intersection of technology and competition, is not immune to this phenomenon. Esports athletes are aware of generative AI, especially for game analysis and skill training, which has led to competing viewpoints. (Lancaster, et al., 2025). However, there is a gap in understanding how genAI has been used in game design and how that has affected player experiences and sentiment.

Purpose: This study examined whether esports student-athletes' perceptions of Generative AI shifted depending on their combined knowledge of their game and Generative AI.

Methods: An anonymous Qualtrics survey, which took approximately 5-10 minutes to complete, was distributed. The quantitative questions were presented across three domains: their knowledge of and comfort with their esports title; their knowledge, comfort level, and understanding of the ethical use of Generative AI; and their awareness of the integration of Generative AI within their specific title, using a 5-point Likert-style choice spanning from strongly disagree to agree strongly. Qualitative responses were aggregated and analyzed for any common themes.

Results: The results of this small study were compelling among the 26 competitive and non-competitive participants in the esports program at the University of Montana. All major titles were represented, including Fortnite, League of Legends, Marvel Rivals, Rocket League, Overwatch 2, and Valorant, with Overwatch 2 having the highest response rate. Over 83% of student-athletes felt confident explaining what Generative AI is; over 80% felt they could explain it to others; 73% felt confident assessing its ethical use; and over 73% had personally used it. However, knowledge of the implementation of Generative AI in their specific games was far more evenly distributed between those who knew what had been integrated into their title and those who did not. This result revealed an awareness gap among the student-athletes. This gap is notable given that many esports titles have integrated AI and Generative AI over the past several years for

bot generation, asset creation, and concept development (Lai, 2023). Despite strong general AI literacy, a majority of respondents expressed negative or strongly negative views toward the use of Generative AI in their titles, contradicting the study's initial hypothesis that greater knowledge would be associated with a more favorable outlook. The central trend became fairly distinct upon analysis. Awareness of Generative AI use in their game correlated with a negative reaction to it. Qualitative responses reinforced this trend. Students cited environmental impact and copyright concerns related to training datasets as primary drivers of skepticism, mirroring broader public discourse and validating the study's connection to population-level sentiment.

Practical Implications: This research aims to inform developers, publishers, and industry leaders, such as Epic Games CEO Tim Sweeney, who predicts that AI will be used in nearly all video games in the future (Thibaut, 2025), that end-users, particularly competitive student-athletes, may not view continued Generative AI integration favorably. There should be more discussions and continued awareness as esports titles are developed and evolve. Improved communication could help connect more deeply with esports athletes, fostering greater affinity and loyalty.

Conclusion: As the industry accelerates adoption of these tools, understanding the perspective of collegiate competitors is both timely and essential. Student-athletes can be some of the strongest advocates for a title, especially given the sport's growth, and this early study could reveal indicators that could help shape the direction of a company, making it more consumer-focused.

Keywords: Generative AI, Society, Technology, Perceptions, Higher Education

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Equality Work in Esports: Between Inclusion, Tokenism, and Structural Change

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Introduction: Despite its rapid growth and increasing professionalization, esports remains a heavily male-dominated field. Research on gender in competitive gaming has consistently highlighted the underrepresentation of women and traced it to structural barriers including exclusionary cultures, gendered harassment, and restricted access to professional networks (Taylor 2012; Ruotsalainen and Friman 2018; Darvin et al. 2021). In response, a range of actors within the esports ecosystem—including publishers, organizations, leagues, and grassroots initiatives—have introduced measures intended to improve gender equality and participation. These include female-only tournaments, targeted development programs, diversity policies, and awareness campaigns aimed at creating safer and more inclusive environments. Existing research suggests that equality initiatives in esports often remain limited in scope and fail to address the structural conditions that reproduce gender inequality (Friman et al. 2023; Piggott 2025).

Purpose: While gender inequality in esports has been widely studied, far less attention has been paid to how equality work itself is framed, implemented, and experienced in practice. In this presentation, equality work refers to the institutional practices, policies, and interventions through which organizations seek to reduce structural inequalities and improve the participation of marginalized groups. Following Ahmed (2012), it is understood as an ongoing institutional process in which formal commitments to equality must be translated into organizational practice through continuous reflection, negotiation, and adaptation, rather than being treated as problems solved by formal policies alone. The presentation examines how equality work is articulated within contemporary esports cultures and how female players are positioned within these dynamics. It asks how esports organizations and equality initiatives attempt to address gender inequality, and to what extent these efforts challenge—or reproduce—existing power relations within the field.

Methods: The presentation draws on a qualitative study of the German esports scenes surrounding Counter-Strike, League of Legends, and Valorant. The study combines ethnographic fieldwork with semi-structured, in-depth interviews conducted with 18 female esports players and 5 industry experts. Ethnographic data were collected through participant observation at esports events as well as observations of digital community spaces. Interview transcripts and field materials were analyzed using a qualitative, inductive coding approach to identify recurring themes and patterns across the data.

Results: The empirical findings indicate that equality work frequently operates in an ambivalent space between inclusion and symbolic representation. In some cases, female players become visible

representatives of diversity within organizations while continuing to face unequal competitive conditions. Such dynamics may produce tokenistic forms of inclusion that primarily serve the reputational interests of organizations and sponsors rather than transforming underlying power relations (Blanco, 2024).

Practical Implications: Understanding the ambivalent effects of equality work is crucial for developing more effective strategies to promote gender equality in esports. By identifying tensions, blind spots, and unintended consequences of existing initiatives, the study highlights areas where equality measures could move beyond symbolic inclusion toward more substantive structural change.

Conclusion: This study argues that equality work in esports is characterized by a fundamental ambivalence: while such initiatives may create new opportunities for participation, visibility, and support, they often remain symbolic and struggle to transform the structural hierarchies that marginalize women. Beyond the German context, the findings offer insights for equality efforts in other emerging esports ecosystems. As regions with developing professional infrastructures explore ways of building more inclusive competitive environments, the experiences of more established scenes may provide valuable points of reference for identifying both effective practices and persistent challenges.

Keywords: gender equality, inclusion, tokenism, structural change, esports organisations

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Esports and Mental Health: A Critical Realist Account

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Introduction: What is it about the social configuration of esports that generates positive and negative experiences of mental health? Research on esports and mental health continues to count the symptoms of psychological distress whilst prescribing clinical interventions on players' behaviour (Kegelaers et al., 2025; Poulus & Sharpe, 2025; Poulus et al., 2026; Poulus & Rice, 2026). Yet, this research has not asked how the social configurations of competitive gaming - the norms, roles and relationships - generate distress in the first place. Rates of stress, anxiety, depression and burnout are properties of social relations, not of the individuals that report them, and so require a sociological account (also see Brock, 2017; Brock, 2021). This requires a meta-theoretical framework treating competitive gaming as a setting that affords players autonomy, recognition, even escapism whilst generating harms that undermine them.

Purpose: Bhaskar's (1998 [1978], 2008 [1975]) critical realism and Archer and Donati's (2015) relational sociology provide the groundwork for developing a new meta-theoretical framework for examining esports and mental health.

Methods: Examining the theoretical foundations of the social science of esports means asking what social reality is and what counts as explaining it (Brock, 2025). This paper turns that ontology toward a different problem. Drawing on Archer and Donati's (2015) relational sociology, it asks why psychological accounts of esports mental health treat individual experience as separable from the relational contexts that produce it. It argues for two concepts from Archer and Donati (2015): 'relational goods' and 'relational evils'. These are qualities emerging from social interactions that cannot be reduced to individual characteristics. Through a focus on men's mental health and masculinity within games (Connell and Messerschmidt, 2005; also Meriläinen et al., 2026), the paper applies this framework to ask how esports shapes wellbeing.

Results: The social relations that deliver belonging, recognition, mastery - psychological wellbeing - in esports also produce exploitation, exclusion, and burnout. This paradox, also identified by Kegelaers et al. (2025), is made intelligible by the 'relational goods' and 'evils' framework. Research must map how these 'goods' and 'evils' emerge from the interplay of players' concerns, reflexive tendencies, and the structural and cultural conditions of competitive gaming. The result is an understanding of esports players' mental health as relationally generated. As a case study, the paper considers what happens when relational evils dominate, and the implications for player mental health.

Practical Implications: Mental health in esports is a structural-relational problem that requires a better understanding of the 'goods' and 'evils' within social configurations, whether these be team cultures,

organisational practices, game architectures, or just competitive norms. The extent to which they generate harm (or not) requires a careful understanding of structure, culture and agency. This holistic approach has implications for how esports organisations, governing bodies and mental health practitioners conceptualise and respond to player wellbeing.

Conclusion: This paper demonstrates the value of meta-theoretical work for a research field that has, thus far, proceeded without it - namely, the need to situate claims about mental health within broader social and cultural conditions.

Keywords: Mental health, critical realism, esports, masculinity, relational sociology

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Esports and the State: Media Framing of Government Involvement Across Economic, Nationalist, and Soft Power Rhetoric

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Introduction: Governments worldwide have increasingly engaged with esports through legislation, development initiatives, and public sponsorship. While political scientists have examined state investment in traditional sports as a vehicle for soft power, nationalism, and economic development, similar dynamics in esports remain understudied. As esports has grown into a multi-billion-dollar global industry, states are deploying it as a site of public investment, sportswashing, censorship, and cultural diplomacy. Yet the public discourse legitimating this engagement has not been systematically analyzed.

Purpose: This study investigates how government involvement in esports is publicly framed and legitimated across media sources, and which rationales dominate across different political regimes, regions, and time periods.

Methods: This project uses a corpus of newsletters, newswires and press releases, newspapers, web-based publications, and news transcripts sourced from Nexis Uni (2018–2025). The corpus includes 894 documents, assembled using a Boolean search, which systematically aims to identify texts that address the intersection of esports-specific terms (such as “esport”, “electronic sport”, “competitive gaming”, etc.) with government involvement in policy, regulation, and strategic initiatives. The objective of this search is to capture comprehensive coverage where esports is framed within the context of formal government engagement, encompassing both regulatory oversight and proactive support measures. Three complementary quantitative text analysis approaches were applied: raw token frequency using a validated custom dictionary of economic, nationalist, and image-based justification frames; tf-idf weighted analysis to assess document-level framing salience; and keyword-in-context (KWIC) filtering to isolate esports-proximate language. Cross-national comparisons drew on the IMD 2024 World Digital Competitiveness Ranking, the V-Dem Political Regime Index, and the 2025 Global Soft Power Index.

Results: Economic rationales dominate esports policy discourse across all three analytical approaches, comprising approximately 2.5–3% of corpus tokens versus under 1% each for image-based and nationalist frames. This dominance is statistically robust and persists over time, with regression models explaining 64–93% of variance. Contrary to expectations, neither national digital strategy status nor political regime type significantly predicts framing variation. Counterintuitively, countries without strong cultural agendas exhibited significantly higher nationalist framing than those with established nation-branding strategies, a finding likely attributable to country classification limitations.

Practical Implications: For esports industry stakeholders and policymakers, these findings suggest that economic justifications are the primary mode of government legitimation in this sector globally, regardless of regime type. This has implications for how esports organizations engage with public funding actors and how researchers should interpret media discourse around government esports development initiatives.
Conclusion: This study positions esports as a legitimate arena of political power and public investment, demonstrating that the framing strategies through which state engagement with traditional sports is publicly legitimated extend meaningfully into esports. Economic rationales consistently dominate, while nationalist and soft power framing play secondary roles. Future research should examine official legislative texts and governmental statements to more precisely capture state-level esports rhetoric

Keywords: government involvement, media framing, soft power, sportswashing, policy discourse

Esports athletes' experiences and perceptions of the menstrual cycle in training and competition: an international interview study

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Introduction: Across sports athletes, the menstrual cycle is demonstrated to impact training quality, absenteeism, and competitive preparedness due to physical and psychological symptoms (Brown et al., 2021; Bruinvels et al., 2021; Chica-Latorre et al., 2025). Female athletes also report varied comfort in discussing their menstrual health with male coaches, despite the acknowledged impact to training. (Brown et al., 2021; van den Berg & Doyle-Baker, 2024) Given parallels in training environments between sports and esports (e.g. Bonnar et al. (2019) and Jenny et al. (2017)), the menstrual cycle may similarly impact women/female esports athletes. To date, the menstrual cycle has not been empirically investigated amongst esports populations. As such, this work seeks to provide an initial insight to women/female esports athletes' experiences regarding their menstrual health across international perspectives.

Purpose: To explore esports athletes' experiences, opinions, and knowledge regarding their menstrual cycle in formal training and competitive environments across international contexts.

Methods: Semi-structured interviews were conducted over Discord with 20 participants (median age [years] = 23) across Malaysia (n=11), Australia (n=2), New Zealand (n=2), Germany (n=2), North America (n=2), and Indonesia (n=1). Convenience and targeted sampling were used to recruit esports athletes with competitive experience in international (n=10), national (n=9), and local (n=1) tournaments of mostly MOBA (n=18) titles (n=2 FPS). All participants were naturally menstruating, except one who was using long-acting contraception with regular withdrawal bleeds. Interviews were conducted in either English language (by one author: RD, n=12) or Bahasa Malay (by one author: RW, n=8). RW also transcribed and translated interviews from Bahasa Malay to English for analysis. Reflexive thematic analysis was undertaken according to Braun and Clarke's (2021) guidance using inductive coding informed by a social constructivist paradigm.

Results: Preliminary coding identified three candidate themes: 1. Menstrual symptoms shaped perceived readiness and engagement for training and competition, with participants describing pain, headaches, fatigue, and changes in emotional regulation associated with the pre-menstrual and menstrual phases. Participants also described positive changes that supported performance, such as assertiveness and aggression. 2. Disclosure was shaped by team culture and coach gender, with participants more comfortable discussing menstrual timing in women's teams than with men/male coaches. The perceived

maturity and knowledge of men/male coaches may moderate players' openness to discuss menstrual health in training and competition contexts. 3. Menstrual tracking was seen as potentially useful but ethically sensitive, with concerns about coach knowledge, privacy, stigma, and possible misuse of cycle-related information.

Practical Implications: Esports athletes may require support in managing the impact of their menstrual cycle on training engagement and competition. Targeted training to increase coaches' awareness of the menstrual cycle may facilitate discussion to support and adapt women's training environments. Input from interdisciplinary stakeholders, including players, is needed to explore the ethical and useful implementation of menstrual tracking in esports. Players may benefit from personal cycle and symptom tracking to understand how their menstrual patterns may shape training readiness, effectiveness, and competition preparedness in the absence of evidence-based guidance.

Conclusion: Our findings will be the first to explore esports athletes' perceptions of the impact of the menstrual cycle in training and competitive environments. Further empirical attention is needed to equitably promote women's esports performance development through targeted, culturally sensitive health initiatives.

Keywords: Female, Menstrual Cycle, Performance, Interviews, Elite Athletes

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Esports Hit the Big Time: What organisational and reputational problems face Esports in the emerging context of authoritarian capitalism and sporting mega-events?

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Introduction: This paper answers several questions initially raised by the (now-cancelled) Olympic Esports Games 2027. The Games were, arguably, an opportunity to forward the global reputation of esports broadly, but its cancellation, this paper argues, highlights two possible approaches to global esports that are already emerging: their incorporation into sporting mega-events, and their colonisation by authoritarian capitalist investment.

Purpose: The situation presents various problems and risks that result in several questions that this paper explores including: • What considerations behind the choice of games played (IOC Media, 2024); at sporting mega events are there and what do they reveal? • How will the Kingdom of Saudi Arabia's authoritarian capitalist economic policy (Ettinger, 2023) and investment in esports affect the global participation, motivations, and decisions of esports stakeholders regarding upcoming events? • How will esports' presence in authoritarian capitalist investment portfolios and at sporting mega-events affect the global reputation of esports with respect to the values of different stakeholders?

Methods: The problems these questions raise have both organisational and ultimately reputational dimensions and so the paper aims to provide a commentary by case study analysis and literature review of the relevant stakeholders, culture, and history of esports' integration into larger non-esports bodies; using reputation theory to guide the discussion.

Results: The result so far is that the IOC are considered out of touch with contemporary esports practice and communities, at its worst has been outright corrupt (Fudge, 2023). Like other Olympic inclusions such as extreme sports or the Youth Olympic Games, both intended to attract a younger audience (Prüschenk and Kurscheidt, 2017), the trade-off for esports organisations and the IOC would seem to be mutually beneficial. However, the IOC are perceived as incompetent, if comparatively palatable in comparison to KSA. KSA's capital investment can support esports very well and its experience running esports events at scale is comparatively competent. However, KSA's problem stems from the authoritarian nature of its capital driven by national policy which seeks ownership and limited negotiation of the use of its funds, alongside the problematic nature of its human rights history; it is less palatable.

Practical Implications: Unresolved questions about the structure and governance of esports at both the national level and for individual games and their communities currently face esports communities

everywhere. Authoritarian capitalist investment and sporting mega-events complicate this further. The criteria for deciding what games might be played or supported become bound up in problems relating to corruption, ownership, and exclusion and the tolerance of esports communities for these problems.

Conclusion: The paper addresses the issues noted above, highlighting potential benefits and risks along the way. Conclusions about the future of the global representation of esports outside of 'native' esports events veer pessimistic in the short term as esports communities have little bargaining power. The power of these external groups magnifies risks toward esports groups moving forward. In the face of the investment of such large, interested parties, there is no choice but to consider how they will shape esports.

Keywords: Esports, Saudi Arabia, Olympics, Investment, Reputation

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Establishing a Legal Framework for Esports Between Sport Law and Hybrid Governance: The Lithuanian Case

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Introduction: Lithuania has national sport regulation governing organised sport, but esports is not clearly situated within it. Esports-related issues are therefore addressed through scattered rules of private and public law, including contract, intellectual property, consumer protection, gambling and digital regulation. This creates a practical regulatory question: should esports remain governed mainly by general law, be incorporated into existing sport regulation, be regulated through a separate esports-specific act, or be addressed through hybrid governance? Answering it requires distinguishing sports law as a broader legal field, lex sportiva as private and transnational sporting norms, and national sport regulation as the state-based framework governing organised sport.

Purpose: This paper assesses which regulatory approach would be most suitable for Lithuania. It examines three models: a separate esports-specific act, amendment of existing Lithuanian sport regulation to include esports fully or partially within the national sport framework, and a hybrid model combining general legal rules, limited sector-specific provisions, soft law, co-regulation and private governance. Rather than treating a separate esports act as lex specialis in the strict doctrinal sense, the paper examines whether Lithuania needs a targeted regulatory layer that would complement existing general and special legal rules without displacing them.

Methods: The research is based on doctrinal, comparative and regulatory model analysis. It examines Lithuanian legal sources, selected foreign approaches, European Union frameworks and literature on esports law, sports law, lex sportiva and esports governance. It is also informed by the author's teaching, prior research on Lithuanian sport legislation and ongoing doctoral research on esports legal regulation.

Results: The preliminary findings suggest that a separate esports act could provide visibility, definitions and institutional clarity, but may create risks of rigidity, duplication and rapid obsolescence. Incorporation into national sport regulation could strengthen recognition and institutional coordination, but may not fully reflect the private, commercial and digital structure of esports, including publisher control, intellectual property dependence and platform-based competition. A hybrid model appears more suitable because it allows public authorities to set minimum safeguards while leaving technical rules, competition formats and industry practices to private governance, co-regulation and transnational standards.

Practical Implications: The Lithuanian case may assist jurisdictions seeking to regulate esports without rigid legislation. A layered approach could support legal certainty and institutional coherence while recognising public authorities, publishers, organisers, teams, players and platforms.

Conclusion: The paper argues that Lithuanian esports regulation should not depend solely on a separate esports law or direct incorporation into national sport regulation. A hybrid model offers a balanced approach combining minimum legal safeguards with regulatory flexibility and sensitivity to sports law, lex sportiva, national sport regulation and digital platform-based governance.

Keywords: esports regulation, sports law, hybrid governance, lex sportiva, Lithuania

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Establishing the World Esports Artificial Intelligence (AI) Ethics Guidelines

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Introduction: The rapid integration of artificial intelligence (AI) into esports training and competition has created significant opportunities for performance optimization, player development, accessibility, and operational efficiency. However, these advancements also introduce complex ethical risks related to fairness, competitive integrity, privacy, and safety. As AI systems increasingly influence gameplay preparation, in-game decision-making, and event management, concerns have emerged regarding the potential erosion of core human elements in esports, including skill, teamwork, and strategic thinking. In response to these challenges, the World Esports AI Ethics Guidelines (Jenny & Pastore, 2025) were developed to provide a structured, globally relevant framework for responsible AI use.

Purpose: The purpose of this research was to establish World Esports AI Guidelines through critical stakeholder input. The primary research question guiding the project was: What are ethical and unethical uses of AI in esports training and competition?

Methods: A two-phase mixed-method, cross-sectional design was employed. Phase 1 involved an online survey of 161 esports, gaming, and AI professionals from 28 countries, recruited through purposive and snowball sampling. The survey collected both quantitative and qualitative data on perceptions of ethical and unethical AI use in esports, forming the basis of a preliminary guidelines draft. Phase 2 utilized a modified Delphi method with a panel of 18 international esports experts from 9 countries to refine and validate the guidelines. Across both phases, quantitative data were analyzed using descriptive statistics, while qualitative responses underwent iterative thematic analysis, including open, axial, and selective coding (Lune & Berg, 2017). Final guidelines were produced through structured consensus-building, integrating empirical findings, expert insights, and alignment with relevant literature and legal frameworks.

Results: The final framework consists of 27 guidelines, including 10 general guidelines applicable to both training and competition, 6 training-specific guidelines, and 11 competition-specific guidelines. Key findings highlight the importance of transparency, informed consent, equitable access, and privacy protection in AI use. The guidelines also emphasize preventing unfair competitive advantages, maintaining human oversight, and ensuring compliance with competition rules and legal standards. Context-specific considerations address issues such as cheating prevention, access to analytics tools, broadcasting enhancements, accessibility features, and event management systems. Supporting materials, including illustrative use cases, an implementation checklist, and an enforcement matrix, were developed to facilitate practical application.

Practical Implications: The guidelines provide actionable, flexible recommendations for esports stakeholders, including players, teams, organizers, and governing bodies. By offering clear examples of acceptable and unacceptable AI use, along with implementation tools, the framework supports informed decision-making and ethical governance. The proposed establishment of a World Esports AI Ethics Officer Consortium further underscores the need for coordinated oversight and ongoing dialogue across the global esports ecosystem.

Conclusion: The World Esports AI Ethics Guidelines establish a foundational framework for ethical AI integration in esports. They reinforce the principle that AI should augment, not undermine, human agency, fairness, and competitive integrity. As AI technologies and esports evolve, ongoing evaluation and refinement of these guidelines will be essential to maintaining trust, protecting competitive integrity, and ensuring sustainable growth within the esports industry.

Keywords: artificial intelligence, ethics, integrity, governance, privacy

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From Esport to Educated?: Describing Esports Participants' Academic Areas of Focus and Directions for Professional Development

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Introduction: As collegiate esports become a mainstay on campuses, advocates suggest that program participation can benefit students' academic and professional development. Anecdotally, collegiate esports programs synergize with STEM (science, technology, engineering, and math), but only some introductory work (Jenny et al., 2025) has addressed this link empirically. This relationship needs to be investigated further, as there is a pressing need for greater student support in STEM. Despite high student interest, STEM education features low graduation rates, slow or costly paths to graduation, and ongoing disparities for women, unrepresented minorities, students with disabilities, and first-gen students (Hatfield et al., 2022; National Academies of Science, Engineering, and Medicine, 2016; National Center for Education Statistics, 2024). Many universities are turning to esports programs to help, as extracurricular activities can improve students' sense of belonging, social support, and other factors that predict graduation likelihood (Hansen et al., 2024; Lee et al., 2025; Slovacek et al., 2019). Additionally, students perceive esports as related to learning (Zhong et al., 2024) and researchers have illuminated this connection theoretically (Andersen et al., 2024), but empirical connections between esports participation and STEM success remain underexplored.

Purpose: This project therefore aims to 1) describe the state of STEM education at schools with collegiate esports programs and 2) empirically investigate connections between esports participation and STEM interest/enrollment.

Methods: First, we combined publicly available data from the IPEDS (2022- 2023) and College Score Card (2022- 2023) with collegiate esports census data (Sonner et al., 2024) to create a visual dashboard comparing student educational outcomes. Second, we are conducting a short survey of program directors to determine which academic programs their esports players are enrolled in.

Results: Our initial data visualization provides statistical representation of STEM graduation rates among schools with esports programs. It highlights the clear need for greater STEM support. Schools' STEM completion rates remain low overall, with some in single digit percentages. Further investigation of the visualization will determine which schools have the lowest graduation rates and help tailor interventions based on their needs. Additionally, we expect survey data to identify connections between esports and

STEM interest. If students are predominantly majoring in STEM areas, as anticipated, esports programs can effectively engage in field-specific forms of support; if findings point instead to a wider range of majors, community- or support-oriented interventions may be more effective.

Practical Implications: This research will lay the foundation for future explorations of esports' effects on student academic achievement and career trajectories. It will also help program directors build professional development initiatives that support students' real interests and needs. Given the anecdotal connections between esports and STEM, program directors are likely tailoring resources towards these areas. If, however, students are enrolled in a wider array of degrees, such as arts and humanities, programs should focus more on community-building, sense of belonging, and other factors that relate to academic persistence, rather than providing narrower student support.

Conclusion: We anticipate completing data visualization and the initial survey by mid-summer and look forward to presenting detailed findings at ERNC2026.

Keywords: collegiate esports; STEM; education; professional development

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From Ping to Proximity: Measuring and Improving Discord Community Connection with the Zero Latency Framework

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Introduction: Online communities—especially those organized around esports—rely on volunteer and semi-professional moderators to maintain trust, a sense of belonging, and safety. Yet most moderation systems are oriented toward enforcing rules, managing toxicity detection, or incidents, rather than the relational work through which communities become healthier over time (Kowert & Noel, 2025). Building on research on online masculinities, healthier digital connection, and moderator archetypes, Project Moonlight proposes that community health should be understood not only as the absence of harm, but as the presence of measurable connection (Equimundo, 2021; Equimundo, 2024; Equimundo, 2025; Kowert & Noel, 2025; Lomanowska & Guitton, 2016).

Purpose: We introduce Zero Latency, a measurement-and-intervention framework for Discord communities that translates observable relational behaviors into a single, longitudinal "ping-like" score (0–999ms; lower is better) intended for within-community tracking. The framework asks: (1) Can prosocial and repair-oriented behaviors in chat be operationalized as indicators of connection quality? and (2) Can moderator-led rituals and interventions produce detectable shifts in these indicators over time? This approach draws from Equimundo's work on men's connection, belonging, and pathways toward healthier online contexts, as well as Kowert's Discord moderator research identifying distinct moderator roles and support needs (Equimundo, 2021; Equimundo, 2024; Equimundo, 2025; Kowert & Noel, 2025; Kim et al., 2025).

Methods: Zero Latency models connection across five domains: Clear Comms, Tilt Control, Locked In, Clutch, and Respawn. These domains capture behaviors such as welcoming, help-seeking, curiosity, emotional regulation, encouragement, and repair after conflict. Discord messages are classified into behavior categories and aggregated into domain-level indicators; scores are normalized against "healthy community" targets, adjusted for sample size, and penalized for toxicity to avoid masking harm under high activity. We evaluated the framework in live deployments across six Discord communities, pairing dashboard measurement with moderator-designed interventions such as reflection prompts, community nights, and failure-reframing activities, consistent with research emphasizing moderators as community stewards whose functions extend beyond rule enforcement (Kowert & Noel, 2025).

Results: Across a multi-month cohort window from February to May 2026, computed on the complete dataset of captured messages in the measured channels/time windows across participating communities, we

observed several promising patterns: toxicity suppression in multiple weeks, emergence of deeper relational behaviors in communities where they had previously been rare or absent, and increases in signals pointing toward growth mindset following interventions designed to normalize emotional risk and recovery. These findings suggest that moderators can use behavioral feedback loops not only to identify problems, but to cultivate desired forms of participation, including the kinds of healthier connection and belonging emphasized in Equimundo's digital-solutions work (Equimundo, 2024).

Practical Implications: Zero Latency offers moderators, esports organizers, and platform stakeholders a practical way to connect community rituals with measurable changes in relational dynamics. Rather than treating moderation as reactive control, the framework positions moderators as designers of social conditions that support belonging, resilience, and psychological safety—a framing aligned with moderator archetype research and Equimundo's evidence-based approaches to transforming norms and strengthening care-centered forms of masculinity (Equimundo, 2025; Kowert & Noel, 2025).

Conclusion: This work demonstrates a pathway from raw chat data to a moderator-facing, intervention-ready measure of connection quality in esports-adjacent online communities. We address methodological considerations regarding behavior definitions, model validation, and ethical governance, and outline next steps toward a reproducible evaluation across additional servers and platforms (Equimundo, 2021; Equimundo, 2024; Kim et al., 2025; Kowert & Noel, 2025; Lomanowska & Guitton, 2016; Project Moonlight, 2026).

Keywords: esports, Discord, community moderation, community health, behavioral analytics

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From Policy to Practice: Implementing Esports Integrity Measures at the 2025 IESF European Esports Championship

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Introduction: Integrity threats such as doping, e-doping (technological cheating), and match-fixing have become increasingly prominent in esports. Despite rapid industry growth, governance structures and integrity policies remain fragmented and underdeveloped. Empirical criminological research examining how these policies function in practice is scarce, particularly in live competitive settings.

Purpose: This study investigates how esports integrity policies are implemented during a major international competition—the 2025 International Esports Federation (IESF) European Esports Championship. It aims to identify regulatory gaps, assess real-world enforcement, and generate evidence-based recommendations using a situational crime prevention (SCP) perspective.

Methods: A mixed-methods approach was employed. First, a desktop review analysed approximately 150 pages of IESF regulations, including anti-doping rules, competition rules, and codes of conduct. Second, participant observation was conducted during the championship finals in Pristina, Kosovo (July 2025). The researcher engaged in active observation and informal discussions with key stakeholders, including athletes, coaches, team managers, organisers, and federation officials. Data were analysed using the eSAFE Sport framework and interpreted through SCP theory, focusing on how opportunities for integrity violations are structured and mitigated.

Results: The findings reveal significant gaps in both governance and implementation across all integrity domains. Anti-doping measures showed limited testing activity, a lack of publicly available testing statistics, and sanctions largely confined to IESF competitions, reducing their broader deterrent effect. Stakeholder perceptions suggest that substance use is more prevalent in online competitions than acknowledged by existing controls. E-doping emerged as a major concern, particularly in online settings where cheating was perceived as widespread. While offline safeguards—such as hardware checks, software verification, and device restrictions—reduced opportunities for cheating, the absence of systematic monitoring, continuous control mechanisms, and detection technologies leaves residual risks. Match-fixing risks appeared insufficiently addressed due to regulatory ambiguity, lack of clear definitions, limited stakeholder awareness of betting prohibitions, and the absence of betting market monitoring. Responsibility for detecting and sanctioning match manipulation remains unclear, with an overreliance on referees despite the complexity of such cases. Two criminological conundrums were identified: (1) technological cheating may serve both performance enhancement and betting-related manipulation; and (2)

broadcast delays intended to prevent real-time cheating may create informational asymmetries exploitable in betting markets.

Practical Implications: The study highlights the need for enhanced testing strategies (including online competitions), greater transparency, harmonised regulations, and systematic anti-cheat and betting monitoring. It also underscores the importance of stakeholder education, clearer allocation of responsibilities, and the development of safeguarding frameworks addressing abuse and harassment.

Conclusion: This study provides the first in situ analysis of esports integrity governance, demonstrating a gap between formal regulations and practical implementation. Addressing these shortcomings requires a coordinated and multi-layered approach that integrates regulatory clarity, technological solutions, and preventive strategies grounded in SCP theory.

Keywords: esports integrity, doping, match-fixing, e-doping, situational crime prevention.

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From Regional Scenes to Global Circuits: How Mega-Events Are Reshaping International Esports Ecosystems

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Introduction: The global consolidation of competitive gaming has traditionally relied on fragmented, publisher-centric regional circuits or localized grassroots community structures. However, the recent emergence of multi-title esports mega-events has triggered a significant paradigm shift in how international ecosystems are structured, governed, and commercialized.

Purpose: This development highlights a critical tension within the industry: while certain regions lead in game development and heritage, global esports success requires complex cross-regional collaboration and transnational infrastructure. This research examines how centralized mega-events reshape international competitive circuits and redefine the relationship between historical gaming hubs and emerging markets.

Methods: Utilizing an organizational ethnography approach backed by a cumulative three-year period of direct operational observation within the Esports World Cup (EWC) framework -covering its initial iterations in Saudi Arabia, and its subsequent strategic relocation to France- this study follows destination management and tourism governance frameworks (Getz, 2008; González Reverté & Morales, 2009). We analyze how destination marketing organizations (DMOs) leverage these multi-title events as strategic tools for city branding and diversification of the tourism offer. Through a comparative multi-regional analysis, this study explores the operational, economic, and cultural friction points across four distinct territories: Asia (the traditional heritage and publisher powerhouse), MENA (the capital-intensive infrastructural catalyst), Europe/North America (the mature, club-driven ecosystem), and LATAM (the high-engagement, resource-constrained regional scene).

Results: The findings indicate that while esports mega-events accelerate internationalization and establish unprecedented global compliance and production standards, they simultaneously challenge localized governance models and underscore the constraints of an incomplete industry structure (Nyström et al., 2022). Furthermore, this research highlights how these centralized multi-title events force regional stakeholders and fanbases to navigate severe geographic and logistical shifts towards non-traditional destinations.

Practical Implications: In response to recent calls to examine how cross-cultural and regional variations shape experiential consumption in esports (Brock & Crawford, 2025), this research provides actionable insights for city administrators, tourism boards, and event organizers seeking to integrate competitive gaming into destination value chains (Becka et al., 2024). It provides a roadmap for balancing localized

community interests with the demands of global commercial compliance, allowing destination marketing organizations (DMOs) to strategically navigate multi-regional friction points.

Conclusion: Ultimately, this study provides a comprehensive, insider-driven framework for understanding the contemporary governance and business management of esports. It illustrates how the convergence of diverse regional practices is forging a new, interconnected matrix for tomorrow's competitive landscape, forcing a continuous re-evaluation of market development and cultural adaptation.

Keywords: Esports Tourism, Esports World Cup, Governance, Organizational Ethnography, Esports Host Cities

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From Sentiment to Participation: Topic- and Context-Dependent Danmu Engagement in Esports Match Viewing

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Introduction: Danmu comments are time-synchronized on-screen messages that allow esports viewers to react to specific moments in a match. Because each comment is attached to the video timeline, Danmu provides an observable trace of platform-mediated consumer engagement in esports videos (Li et al., 2023). Drawing on emotional contagion theory and interaction ritual chain theory (Collins, 2004; Hatfield et al., 1993), this study examines when emotional expressions in Danmu comments become visible participation during esports match viewing.

Purpose: The study asks how positive and negative sentiment are associated with minute-level Danmu engagement, whether this association differs across discussion topics, and whether match-level contexts further condition the sentiment-engagement relationship.

Methods: The analysis uses 151,814 Danmu comments collected from official Bilibili replay videos of professional League of Legends Pro League matches. These comments were aggregated into 6,094 match-minute observations nested within 34 matches. The outcome variable is minute-level Danmu engagement, measured as the number of comments attached to each match minute. Sentiment was classified as positive, neutral, or negative using a multilingual transformer classifier and validated against 1,500 manually coded comments. Discussion topics were identified with six-topic Latent Dirichlet Allocation. The study then estimates multilevel negative binomial regression models to test sentiment effects, topic moderation, and cross-level moderation by match context.

Results: Positive sentiment is positively associated with minute-level Danmu engagement, whereas negative sentiment is not statistically significant. The positive sentiment-engagement relationship is stronger when comments focus on player performance and broadcast commentary, but weaker in humor-oriented banter. Match context also matters: later games in a series, longer series, and playoff or final-stage matches strengthen the association between positive sentiment and engagement. Star players and popular teams are associated with higher overall engagement, although they do not clearly amplify the sentiment effect in the cross-level models.

Practical Implications: The findings suggest that esports platforms, broadcasters, leagues, teams, and sponsors can encourage Danmu participation by foregrounding emotionally resonant player performances, emphasizing high-stakes match narratives, and using commentary or interface cues that support positive collective attention around key moments.

Conclusion: This study shows that time-synchronized Danmu engagement is not simply a reaction to gameplay events. It emerges from the interaction between emotional expression, topical focus, and match context. By clarifying how sentiment becomes observable platform participation, the study extends emotional contagion and interaction ritual theories to esports audience communication and digital consumer engagement research.

Keywords: Danmu, viewer engagement, sentiment analysis, live streaming, League of Legends

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From Traditional Sports Clubs to Esport Organizations: The Development and Challenges of Esport Sections in France

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Introduction: Over the last ten years, esports has grown significantly and has become an important cultural and economic phenomenon worldwide. In France, many traditional sports and multisport clubs have started to create their own esports sections. This evolution reflects broader changes in the way sports institutions adapt to digital practices, youth culture, and new forms of competition. While most studies on esports focus on publishers, professional organizations, or streaming platforms, fewer works examine the role played by local sports clubs in the development of grassroots esports. The French case is particularly interesting because of the country's strong fanbase (in both sports and esports) and the increasing recognition of esports by public institutions and sporting actors.

Purpose: This presentation explores how French esports-clubs, sports-clubs, multisports-clubs, and independent local-esports-organizations create and manage esports-sections, and how these initiatives transform relationships between traditional sport structures, digital practices, and local communities. The aim is to better understand the motivations behind these projects, the organizational models adopted by clubs, and the main opportunities and challenges linked to the development of esports at the local level.

Methods: The study is based on a qualitative methodology combining semi-structured interviews, institutional document analysis, and case studies of French clubs that have developed esports activities (this particularly includes GentlesMates, Solary, PSG-Esports, Levallois-Sporting-Club, Courbevoie-Esport-by-Pandore, and Educ-Esport). Interviews were conducted with club managers, coaches, volunteers, players, and local stakeholders involved in these projects. The analysis focuses on several dimensions, including governance, funding, community engagement, relations with federations, and the integration of esports into existing club identities.

Results: The first results show that clubs mainly use esports to attract younger audiences, modernize their image, and diversify their activities. However, the integration of esports into traditional sports organizations remains unequal depending on the club and the local context. Many clubs face financial limitations, governance uncertainties, and a strong dependence on volunteer work. Some tensions also appear between competitive goals and educational or social objectives usually associated with those sports clubs. We will highlight important differences between clubs using esports mainly as a communication tool and those aiming for long-term integration. Local support and territorial dynamics also seem to play a major role in the sustainability of these initiatives.

Practical Implications: The findings provide useful insights for sports organizations and educational institutions interested in the extension of esports at grassroots level. The presentation discusses possible approaches regarding governance, volunteer training, youth engagement, and cooperation between public administration and esports stakeholders. In general, it contributes to international discussions about how traditional sports institutions adapt to ongoing digital transformations.

Conclusion: The development of esports sections within French sports clubs illustrates how sport organizations are gradually evolving in the digital era. Rather than replacing traditional sports practices, esports is often seen as a complementary activity that helps clubs expand their identity and reach new communities. However, the long-term sustainability of these projects depends (or will depend) on clearer governance frameworks, stronger local support, and the ability of clubs to balance competitive goals with social and educational values.

Keywords: Esports, (Multi)sports clubs, France, Grassroots, Sustainability

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From Viewers to Value Chains: Developing a Sustainable Esports Media Ecosystem Framework for Selected African Contexts

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Introduction: Esports is one of the fastest-growing sectors of the global digital economy, yet little empirical research examines how esports media organisations in African contexts convert audience engagement into sustainable economic and organisational value. Existing scholarship on streaming, platform economies, and participatory culture centres on North American, European, and East Asian markets, leaving these ecosystems underrepresented.

Purpose: Avoiding any treatment of "African esports" as a single market, this study focuses on named organisations and platforms in four specified countries — Ghana, Nigeria, Kenya, and South Africa. It asks how selected esports media organisations build and sustain audiences; through what organisational, technological, community-based, and commercial mechanisms engagement is transformed into social, organisational, cultural, and economic value; how infrastructure, platform governance, and digital-payment systems shape sustainability; what similarities and differences exist across cases; and which internationally documented practices are adaptable to these contexts.

Methods: The study uses a multiple-case, explanatory, mixed-methods design. For each national case, data comprise semi-structured interviews with organisational stakeholders (founders, managers, and content and community leads), organisational document analysis, and platform/audience analytics drawn from the organisations' own streaming and social channels. Cross-case analysis compares a common set of indicators — audience-building, value creation and retention, infrastructure, platform governance, monetisation and payment systems, and organisational resilience — to identify shared patterns and context-specific differences, and to surface transferable (rather than universal) best practices.

Framework: Findings are organised through the Sustainable Esports Media Ecosystem Framework for Africa (SEMEFA), introduced as a diagnostic and comparative tool for analysing how media content, community participation, digital platforms, infrastructure, governance, and revenue systems interact to support or constrain ecosystem sustainability across national contexts.

Anticipated Contribution: As a study in progress, the work is designed to generate context-sensitive evidence rather than a universal model. It is expected to contribute to esports studies, digital-media and platform-governance research, and emerging scholarship on Africa's digital creative economy, while offering practitioners and policymakers a structured framework for evaluating sustainable esports media ecosystems.

Conclusion: By comparing named organisations across four countries, the study aims to explain how viewers are turned into value chains, and to provide a transferable, evidence-based framework for sustainable esports media ecosystems.

Keywords: esports media, value chains, platform economies, Africa, sustainability

Generative AI in Rural High School Esports: A Case Study of Coach and Advisor Perceptions, Access, and the Collegiate Pipeline

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Introduction: The growth of scholastic-to-collegiate (i.e., secondary school to higher education) esports has created unique opportunities for rural high school students to access esports programs, scholarships, and educational pathways previously unattainable (Warnock et al., 2025; Seidmann, 2024). However, generative artificial intelligence (gen AI) adds a new wrinkle to the equation as it becomes increasingly integrated into both the esports game titles students play and the tools developers use. Gen AI, a type of artificial intelligence that generates new content based on training data, has been commonly used in player training, skill development, and game analysis. (Jenny and Pastore, 2025) Therefore, concerns regarding ethical recruiting practices and the same student playing across multiple programs become more complex. There are now also questions about awareness, accessibility, and student readiness, especially for coaches and faculty advisors serving in these rural esports programs.

Purpose: This pilot study examines how rural high school (i.e., secondary school) esports coaches and advisors perceive and leverage generative AI, the barriers to adopting these tools, and how their attitudes align with or diverge from those of collegiate esports players. In doing so, it examines how coaches should transparently and adequately prepare their students for the programs they join, while balancing the need to educate students with their exposure to gen AI in scholastic competitive gaming contexts.

Methods: This pilot case study employs a two-phase sequential survey design, combining a structured Likert-scale instrument (adapted from a parallel study of collegiate esports players) with a written open-ended survey exploring barriers to the adoption of gen AI and usage with coaches and collegiate players alike, along with attitudes toward its integration in esports (College Board, 2025). This pilot study analyzed responses from rural high school esports coaches and advisors (n=10) and a collegiate player dataset (n=26) to uncover emerging comparative patterns between the two demographics. All responses were collected using an anonymous Qualtrics survey consisting of 29 questions for coaches and advisors and 16 questions for players. It took approximately 10-15 minutes for the coach's survey and 5-10 minutes for the player's survey. The questions consisted of a mixture of Likert-scale questions assessing literacy, fluency, usage, and perceptions of generative AI, and qualitative questions examining future direction and the influence these tools have on coaches, advisors, and players. For coaches and advisors, the response rate was approximately 58%, while for students it was approximately 32%.

Results: The analysis revealed an intriguing, at times counterintuitive, picture. Although rural coaches often reported slightly lower understanding of gen AI than collegiate players, they reported higher actual

usage and greater acceptance of gen AI in esports contexts. In contrast, collegiate players expressed stronger ethical concerns and more negative overall attitudes, resulting in lower usage.

Practical Implications: These findings could have essential policy implications for scholastic esports leagues, professional coaching development, and the design of collegiate onboarding for rural recruits. Instead of focusing solely on the accessibility of gen AI in rural programs, administrators and policymakers should first acknowledge that these coaches are informal early adopters whose practical use exceeds their self-reported familiarity with it. Investment in AI literacy resources, ethical-use guidance, and guidance between scholastic and collegiate programs may be more productive than approaches that assume only a deficiency in accessibility.

Conclusion: These discoveries could positively impact the conversation around the digital divide, including the gen AI divide, and open a broader discussion about attitudes toward gen AI in scholastic and collegiate esports. Awareness, attitudes, and accessibility overlap in ways that require additional attention from researchers, educators, and league administrators as they shape AI literacy and the responsible and ethical use of AI (Durak, 2025).

Keywords: generative AI, scholastic esports, rural education, collegiate pipeline, coaches and advisors

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Implementation of the IPK Esports® Wellness Monitoring Framework in Professional Valorant Players: A Pilot Observational Study

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Introduction: Professional esports involves prolonged sitting, repetitive upper-limb movements, extensive screen exposure, irregular schedules, and high psychological demand, all of which can affect player health and readiness (DiFrancisco-Donoghue et al., 2019; Trotter et al., 2020; Zwibel et al., 2019). In traditional sport, repeated subjective wellness monitoring is a practical, low-cost, and ecologically valid way to track readiness, fatigue, and recovery (Hooper & Mackinnon, 1995; Saw et al., 2016), yet structured, routinely implemented monitoring is rarely documented in professional esports.

Purpose: This pilot study describes the implementation of the IPK Esports® Wellness Monitoring Framework within one professional Valorant team across a competitive season and explores temporal associations between subjective wellness and official performance indicators. No causal or efficacy claims are made.

Methods: In a prospective, longitudinal, observational design, five professional Valorant players (Ramboot Club; Spain Rising Challengers League, Split 1, 2024) completed the IPK Wellness Questionnaire (IPK-WQ) weekly. Predefined alert criteria (any domain scored 2 or below) prompted clinical review and individualized, non-standardized interventions. Official performance metrics (K/D, ACS, ADR, KAST) were obtained from the public VLR.gg database. Given the small sample (n = 5), analysis was restricted to descriptive longitudinal observation; no inferential tests, regression, or causal modelling were performed (Saw et al., 2016).

Results: Players with higher average wellness scores tended to show greater stability across official performance indicators. In the two alert-triggered cases with available follow-up, composite scores were higher at the next assessment, describing a favourable short-term trajectory rather than a treatment effect. The team’s 10-match winning streak coincided with no composite scores below the alert threshold. These observations are exploratory and hypothesis-generating.

Practical Implications: The framework illustrates how routine, low-cost subjective monitoring can be embedded in professional esports to flag reduced readiness and guide individualized, clinician-led support (Saw et al., 2016; DiFrancisco-Donoghue et al., 2021). Findings should inform hypotheses for adequately powered studies rather than practice recommendations.

Conclusion_ This study documents, transparently and without evaluating efficacy, the real-world implementation of a structured wellness-monitoring framework in professional Valorant. Controlled, larger studies are needed to test the associations observed.

POSITIONALITY AND CONFLICT OF INTEREST

The corresponding author developed the IPK Esports® framework and served as the implementing physiotherapist, and is professionally associated with IPK Academy. The study documents implementation rather than validating the framework; proprietary elements are presented as a practice model, not as evidence of effectiveness.

Keywords: wellness monitoring, Valorant, player health, readiness, observational study

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Legitimacy, Cultural Entrepreneurship, and Community Fragmentation in Brazilian Esports

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Introduction: Prior research shows that new ventures and emerging fields gain legitimacy by aligning with recognizable institutional templates and narratives, signaling professionalism, and becoming intelligible to external stakeholders (Aldrich & Fiol, 1994; Navis & Glynn, 2010, 2011). Similarly, work on cultural entrepreneurship highlights how actors draw in audiences by mobilizing cultural resources, such as symbols and stories, to shape collective meanings and identities (Gehman & Soublière, 2017; Lounsbury & Glynn, 2001; Wry et al., 2011). While prior research has paid significant attention to legitimacy and cultural resonance, it has paid less attention to stakeholder heterogeneity in contexts where organizations must gain legitimacy among new audiences while preserving the identity of their core participants.

Purpose: This study examines how game developers or publishers build legitimacy for new competitive games without alienating their core players. We investigate the entrepreneurial process through which Riot Games, via League of Legends, helped develop and consolidate esports as a cultural movement in Brazil.

Methods: Through purposive sampling, we assembled a dataset comprising more than 1,000 hours of podcasts, documentaries, and secondary interviews, along with hundreds of pages of official announcements, news reports, and industry communications. Sources were selected based on their relevance, coverage of key periods and events, and representation of perspectives from publishers, players, casters, streamers, organizations, journalists, and other stakeholders.

We followed an iterative thematic coding approach. Initial codes remained close to the empirical material and captured specific practices, artifacts, stakeholder perceptions, and forms of interaction. Examples include the use of arenas and formal broadcast formats, perceptions of rigidity, audience migration toward streamer-centered communities, and the gradual opening of co-streaming rights. Through iterative comparison of these codes and engagement with the relevant academic literature, we grouped them into higher-order themes concerning professionalization, legitimization, organizational responses, and community dynamics. We then examined the relationships among these themes to develop a preliminary process model.

At ERNC26, we will present our sampling strategy, coding structure, representative excerpts, and emerging model in detail.

Results: Preliminary findings suggest that, in seeking to legitimize the nascent esports movement, Riot relied heavily on cultural artifacts imported from traditional sports and mainstream media, including

broadcast formats, arenas, and competitive structures. These artifacts professionalized esports and built legitimacy among sponsors, mainstream audiences, and external institutions. However, they also produced a countervailing dynamic. As the official product became more formalized and institutionally disciplined, parts of the core audience perceived it as rigid, distant, and misaligned with the language and practices of the gaming community. We conceptualize this dual-sided outcome as non-endemic legitimization and endemic delegitimization.

These legitimacy-building dynamics contributed to community fragmentation, but not to ecosystem exit. A substantial portion of the audience shifted toward streamer-centered subcommunities tied to League of Legends but outside Riot's official media channels. This redistribution of audience attention and symbolic influence created a strategic challenge for Riot, as streamer-led spaces increasingly competed with the official broadcast for reach, community attachment, and commercial value. Riot initially responded by protecting the official product, restricting access to competition footage, and treating streamers as potential competitors. As these frictions intensified, however, Riot began negotiating with prominent streamers, gradually opening co-streaming rights and incorporating selected practices from streamer-led broadcasts, thereby initiating a process of reconciliation.

Our emerging model connects these successive stages of legitimacy-building, fragmentation, organizational response, and reconciliation. At ERNC26, we will present the model and its supporting evidence to gather feedback before proceeding to a subsequent phase of primary interviews designed to deepen our understanding of the mechanisms connecting these stages.

Practical Implications: Our preliminary findings suggest that efforts to legitimize emerging competitive ecosystems may have unintended consequences when the same artifacts that attract external stakeholders also alienate the core audience. Our emerging model identifies practices and conditions through which publishers may manage this duality, retain fragmented audiences, and create conditions for their subsequent reintegration.

Conclusion: This paper contributes to research on legitimation and cultural entrepreneurship by showing how cultural artifacts can produce double-edged outcomes. It also contributes to esports research by offering a process perspective on how publisher-led professionalization and streamer-centered communities may co-evolve. Feedback from ERNC26 will help refine the model and inform the design of a subsequent phase of primary interviews.

Keywords: Esports, League of Legends, Legitimization, Cultural Entrepreneurship, Community Fragmentation

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Mapping the Visual Grammar of Esports Livestreaming: A Cross-Genre Analysis of UI Density and Color Strategy

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Introduction: Esports livestreaming interfaces are primary mediums for spectator engagement, yet design practices vary substantially across genres. This variation creates a critical tension between real-time data display and spectator cognitive comfort (Korbel et al., 2025). While existing research covers macro engagement metrics, systematic cross-genre analysis regarding visual clutter, overlay density, and chromatic distribution remains limited, leaving production teams insufficient empirical, evidence-based design guidance.

Purpose: This study asks: What interface design logic and pattern exist in professional esports livestreaming across gaming genres? We aim to establish empirically driven guidelines enabling broadcast production teams to optimize information presentation without compromising spectator satisfaction.

Methods: We analyzed eights high-viewership broadcast cases across eight genres: RTS, FPS, MOBA, Fighting, Racing, Sport Simulation, Card Game, and Battle Royale. Interface module area proportions were quantified using Adobe Photoshop, while HSV (Hue, Saturation, Value (or Brightness)) color distribution analysis established empirical baselines of current industry practices.

Results: User Interface (UI) Element Configuration Logic in Esports Livestreaming. The configuration is shaped by two intersecting logics: visual competition and genre identity expectation. Where gameplay saturates the visual field, UI deployment is spatially constrained. Where spectators expect a real-world broadcast aesthetic — as in Sport Simulation and Racing — UI restraint becomes a deliberate authenticity signal rather than a spatial necessity. These logics explain the observed distribution. Fighting, MOBA, and Card Games (31%–35% of total screen area occupied by UI elements) feature static or fixed camera perspectives and slow action pace, carrying no authenticity obligation and enabling maximum UI deployment. RTS, FPS, and Battle Royale titles (22%–26%) involve continuous camera movement, high-tempo action, and broad situational awareness demands, confining UI to fixed peripheral zones to balance informational demand with unobstructed sightlines. Sport Simulation and Racing (9%–12%) are subject to both logics simultaneously, minimizing overlays to preserve spatial immersion and uphold the broadcast aesthetic central to their spectatorial identity. Visual Anchoring and High-Contrast Coloring Pattern. Crucially, a convergent design pattern emerges: while high-tempo titles utilize dark background containers ($V \leq 17\%$) to anchor attention, certain titles strategically deviate, employing high-value containers (e.g., Fortnite at 93%, Hearthstone at 51%) to sustain genre-specific thematic branding. In two-faction

competitive titles (e.g., MOBA, FPS, Fighting), opposing sides are assigned high-contrast color pairs separated by 120°–180° on the color wheel — maximizing chromatic discriminability so that spectators can instantly register critical state changes amid high-motion gameplay.

Practical Implications: These findings provide a genre-calibrated diagnostic framework for broadcast teams to benchmark overlay density. Additionally, the validated chromatic patterns offer a replicable template that optimizes information presentation while reconciling cognitive accessibility and color vision inclusivity.

Conclusion: By establishing the UI configuration logic and coloring patterns, this study transforms esports broadcast interface design from convention-driven practice into an empirical, evidence-based discipline.

Keywords: Esports Livestreaming, Interface Design, Overlay Density, Color Strategy, Cross-Genre Analysis

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Measuring Gender-Based Discrimination in Online Gaming: An Experiment Using Voice and Chat Interactions

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Introduction: Online gaming has become one of the largest global entertainment industries and an important social space for younger generations. Despite its rapid growth, concerns about harassment and discrimination - particularly gender-based harassment - remain widespread. Research suggests that female players frequently experience hostile interactions, sexual harassment, and exclusion in online gaming environments. However, much of the existing evidence relies on surveys or interviews, which can suffer from reporting bias and do not provide causal inference. Experimental approaches that observe behavior during actual gameplay remain rare. Understanding whether and under which circumstances gender-based harassment occurs in online games is important for improving the inclusiveness of gaming communities.

Purpose: This study examines whether players who present as female experience more harassment than players who present as male in online gaming environments. We record chat and audio commentary during gameplay. In addition, we investigate whether negative reactions intensify when players experience a temporary technical problem.

Methods: We conduct a field experiment in which 30 adult (aged 18 or older) participants played in team-based online matches. Participants were recruited through a university offered esports minor and gave informed consent before taking part. Participants were randomly assigned to groups of three and played several matches in three popular multiplayer titles that are also established esports games and that support in-game voice and text communication: Fortnite (battle royale), Counter-Strike 2 (tactical shooter), and Rocket League (vehicular soccer). The matches were standard online public matchmaking sessions. The gender each player presented to other players was assigned at random and changed every 20 minutes and was signaled through in-game username; this presented gender is the study's main independent variable. In some matches, players introduced a scripted technical issue (e.g., "technical problem—trying to rejoin soon"), creating a controlled disruption. During each match, players recorded interactions and categorized them as positive, neutral, negative, or sexually harassing. Additionally, we used AI to categorize voice and chat interactions through an automated pipeline that transcribed in-game audio (OpenAI's Whisper speech-to-text model), extracted on-screen chat and notifications using optical character recognition, and classified each interaction with a large language model (Anthropic's Claude Opus 4.7). The final dataset contains 319 observations, where one observation corresponds to a player participating in a 20-minute match. The experiment involved interactions with other online players who were not enrolled in the study. The protocol

was reviewed and approved by the ethical committee of the first author. No personally identifying information about non-participants was collected. We analyze the data using ordinary least squares regression models with multiple controls, and Double Machine Learning to obtain robust estimates of treatment effects.

Results (Key Findings): Results indicate that players presenting as female experience significantly higher levels of sexual harassment compared with male players. Across specifications, the estimated effect ranges from roughly 6 to 9 percentage points. Machine learning estimates confirm these findings. When examining gameplay disruptions, harassment appears more pronounced for female players during glitch conditions compared to normal gameplay. However, the interaction between gender and glitch conditions is not statistically significant in the main specifications.

Practical Implications: The findings highlight persistent gender-based harassment in online gaming environments. Game developers and publishers may use these insights to strengthen moderation systems, improve reporting tools, and implement community management strategies that discourage abusive behavior. Interventions aimed at reducing toxicity may be particularly important in situations where gameplay disruptions occur, as frustration can increase hostile responses.

Conclusion: This study provides experimental evidence that female players experience higher levels of sexual harassment in online gaming interactions. While harassment does not occur in the majority of interactions, the gender gap remains meaningful and consistent across analytical approaches. These results contribute to the growing literature on discrimination in digital environments and underline the need for continued efforts to foster more inclusive online gaming communities.

Keywords: gender-based harassment, field experiment, voice chat, online gaming, discrimination

No Pros in a Pro Tour: Inside a Testing House for Magic: The Gathering

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Introduction: Magic: The Gathering (henceforth MTG) is trading card game played both in person and digitally that earned $1.72B (US) for Hasbro in 2025. Since MTG's Pro Tour began in 1996, the most accomplished players have each earned hundreds of thousands of US dollars competing in tabletop as well as online tournaments. Nevertheless, MTG remains what the author terms a "peripheral esport," or one in which there are financial stakes and an audience of spectators, but there are no true full-time professionals in the game. While mainstream esports tend to get the most attention, the mosaic of the esports scene is composed mostly of peripheral esports as varied as MTG, World of Warcraft, Madden, and Forza. This study articulates the precarity of competitive play for little promise of sustainable compensation.

Purpose: The present study was conducted in a "testing house" in the week before a Pro Tour (henceforth PT) event for MTG. Two research questions guiding interviews were "How do players in a PT testing house reach strategic consensus in their preparations for a tournament?" and "How does MTG fit into these players' professional goals?"

Methods: The researcher was given access to the space of the testing house to conduct observations as a "fly on the wall," recording handwritten notes about player interactions and communication practices. 10 participants (half the testing house) sat for semi-structured interviews, each about 30 minutes. Afterwards, the researcher attended the Pro Tour tournament and tracked participants' retrospective observations of team performance.

Results: Players acknowledged that there wasn't a real path to professionalization in MTG. Instead of a hope for "going pro," motivations for being there treated it more like an expensive vacation. Despite the demanding cognitive task involved, and despite the time investment entailed in pursuing this goal, the expected value of payoff for all this work was, as the players readily acknowledged, low.

Practical Implications: This presentation engages Nieborg and Foxman's Mainstreaming and Game Journalism (2023) to draw a distinction between what "mainstream" and "periphery" means within the context of esports, itself a cultural niche. The main intervention is a linguistic one: distinguishing between the mainstream and the peripheral helps us better orient ourselves to the material realities of competitive players, even if top-tier players in a given game are colloquially known as "pros." Often, as is the case with MTG, the "pros" are not truly professional competitors, and both researchers and the broader esports scene can lose sight of that fact. By more carefully observing a distinction between the mainstream and the

peripheral, the esports scene can be more clear-eyed about the financial position full-time competitors place themselves in.

Conclusion: Two conclusions emerge from the pair of research questions. To the first question about strategic consensus-building, study participants engaged in animated but collegial interrogation of how best to approach the tournament's format. One resonating motivation to invest their time and energy on playing high-level competitive MTG was to work on an immensely complex problem with limited information. As to the research question on professional goals, while it is tempting to presume that there is a path to professionalization in most esports, these "pro" level players were clear that there was not really a career in this pursuit. Close examination of a single peripheral esport such as MTG attunes us to the broader picture of an esports scene made up of mostly small peripheral niches of competition, which typically attract dedicated, brilliant players in spite of marginal potential payoff. As it is with so many other games, professionalization for the game's best players remains out of reach.

Keywords: TCG, professionalization, peripheral, Magic, interview

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Performance and Perception: How Educational Interventions Shape Esports Doping Attitudes

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Introduction: Esports has expanded rapidly within higher education, with hundreds of institutionally supported collegiate programs in the United States alone and record new investments in 2024-2025 (Postell & Narayan, 2025). As esports spaces continue to grow, questions about governance, ethical standards, and the regulation of competitive play remain. Performance-enhancing drug (PED) use is broadly viewed as unethical in traditional sports (e.g., Jowett et al., 2023) and there is evidence that doping may contribute to reduced acceptance of esports (Gupta et al., 2022). However, prior research indicates collegiate stakeholders view PED use as more acceptable in esports (Valentine et al., 2025). Those findings suggest that this discrepancy may reflect a belief that PEDs do not impact esports performance, raising concerns for competitive integrity.

Purpose: The present study examines whether providing information about PED efficacy influences collegiate stakeholders' attitudes toward doping, and whether these effects differ between traditional sports and esports. In addition, the study explores whether perceived effectiveness of PEDs helps explain changes in attitudes toward doping in esports.

Methods: A mixed experimental design was used with a between-subjects factor of educational condition (esports PED information, sports PED information, or general esports information [control]) and within-subjects factors of time (pre-, post-intervention) and domain (sports, esports). Collegiate stakeholders (students, faculty, and staff affiliated with collegiate institutions) completed measures of doping attitudes using the Performance Enhancement Attitude Scale (PEAS; Petróczi & Aidman, 2009), with minor wording adaptations for esports, along with brief indices assessing perceived PED effectiveness in each domain. Measures were administered before and after exposure to the assigned intervention. Analyses include a 3x2x2 mixed ANOVA and secondary mediation analyses examining whether changes in perceived effectiveness account for changes in esports doping attitudes.

Results: While data collection is ongoing, preliminary results indicate that exposure to esports-specific PED information appears to increase perceived effectiveness of PEDs in esports while decreasing perceived acceptability of doping in esports. In contrast, attitudes toward doping in traditional sports appear stable across conditions. Initial results also suggest that changes in perceived effectiveness are associated

with changes in attitudes toward doping in esports, providing preliminary support for the proposed explanatory mechanism. These patterns will be re-evaluated with the full sample.

Practical Implications: These findings have implications for governance and ethics in collegiate esports, particularly in contexts where regulation remains inconsistent. If attitudes toward PED use are shaped in part by beliefs about effectiveness, educational interventions may represent a practical strategy for promoting competitive integrity by shaping competitor and administrator attitudes in ways that reduce willingness to engage in doping and increase support for regulation. Such approaches are especially relevant for organizations seeking to align emerging esports norms with established expectations in traditional sports.

Conclusion: This research builds on prior work by exploring both the malleability of doping attitudes and a potential mechanism underlying those attitudes. The findings suggest that differences in how PED use is evaluated across domains may reflect underlying assumptions about effectiveness, highlighting the role of educational interventions in the ongoing development of esports policy and practice.

Keywords: Doping, Performance-enhancing drugs, Collegiate esports, Educational interventions, Attitudes

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Pieces of Eight Tournament Format: A new tournament format for a new age of competition (WIP)

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Tournament design research has recently had a renewed focus utilizing operation research techniques to evaluate quantitative metrics in tournament formats. Historically, tournament formats were broken into either elimination or non-elimination formats, and how to run and operate them was the primary focus. Qualitative metrics on how important specific aspects of a tournament ranged from 'not important' to 'very important', for example demonstrated in 'Organizing Successful Tournaments' (Byl, 1990). Recently, Balázs et al. (2022) from operation research utilized Monte Carlos simulations in their research 'The Efficacy of Tournament Design' and found that Swiss format yielded the best results for final placement of entries and identified that esports current has no standard tournament format that is used across titles. Then Yuan's (2024) research 'The Impact of Swiss-Style Tournaments of Esports Team Performance: An Examination of the League of Legends World Championships' analyzed the use of Swiss format tournament for League of Legends competition and identified more unbalanced match up occurred using the tournament format and noted that 'tournament design and is critical in the development and management of esports competition'. By continuing to use operation research and to add to tournament design research for final placement accuracy, a new tournament format was created currently named Pieces of Eight (P8).

P8 is a non-elimination tournament format that utilizes partitioned group play that is used for future pairings and final placements. This new tournament format is compared with existing tournament formats using Monte Carlos simulation and random initial seeding to evaluate the accuracy of the final placement of competitors. Accuracy is primarily evaluated by mean squared error (MSE) to measure the magnitude of error that occurs, lower the better. In addition, a range of sizes of tournament entries are used to further evaluate how scalability of entries affects overall accuracy of the tournament format. Sizes of tournaments that are evaluated are 32, 64, 128, 256, and 512. The 5 data points are used to evaluate how P8 and other tournament formats accuracy adjust with respect to scale of entries. To normalize the comparisons, an accuracy measurement uses the MSE previously calculated and standardizes the number of entries there are in the tournament. The normalization figure is used to determine if there is any form of trend data, or other interesting findings, that emerge as the size of the tournament increases.

The research is still a work in progress, however early findings in a 32 and 64 entry tournament format comparison using random seeding is that the group play of P8 has a 30% or greater reduction of normalized mean squared error for final placement of entries compared to the true rank. Thus, early results show an

overall improvement of accuracy to the final placement of entries compared to established tournament formats.

Keywords: tournament design, non-elimination format, Monte Carlo simulation, seeding, competition structure

Playing Without Rules: A Comparative Legal Analysis of Esports Player Contracts in France and South Korea

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Introduction: The starting point of this research was an entry through player–club contracts and the legal issues they raise and key considerations for clubs drafting contracts. To examine these issues meaningfully, it was necessary to identify case studies that would reveal both the diversity of possible legal responses and the persistence of shared problems despite that diversity.

France and South Korea were selected because they represent two radically different trajectories of legal and institutional construction, while nonetheless converging on similar difficulties:

South Korea supported the development of esports very early on (institutionalization, public recognition, structuring of the ecosystem). This support was notably grounded in the Esports Promotion Act, which provides that the Minister of Culture, Sports and Tourism shall formulate and implement a plan to promote esports, support and develop competitions and train specialized professionals. However, this support came at the expense of adequate legal protection for the actors involved, particularly players (uncertain status, weak contractual position, etc.).

France, conversely, legislated as early as 2016 with an almost exclusive focus on player protection, without meaningfully addressing the structuring of clubs or the economic development of the industry — an imbalance that has only recently begun to shift, a full ten years later.

This comparison thus makes it possible to challenge the common assumption that South Korea represents the model example of esports regulation. In reality, both countries illustrate a form of partial regulation, but partial in opposite directions (economic/institutional support without legal protection on one side; legal protection without economic consideration on the other). The fact that two such different systems encounter analogous difficulties demonstrates that these problems are not contingent on a particular national legal context, but rather stem from structural tensions inherent to the esports sector itself.

Purpose: The relevance of this comparison extends beyond the French–Korean framework: the aim is to identify, from two models developed independently of one another, the recurring points of friction in contractual matters. By confronting what has been regulated in one system against what has been overlooked in the other, the analysis helps to draw out directions for a more balanced legal framework governing player–club relations.

Although France and South Korea have each structured their Esports ecosystems differently – the former through belated and imperfect legal recognition, the latter through pioneering institutional frameworks –

both share a common shortcoming: the absence of clear and binding rules governing the contractual relationship between players and Esports organizations. France opted for an employment contract specifically tailored to Esports; however, the mismatch between this instrument and industry realities has led clubs to largely disregard it. In fact, industry actors do not make use of the esports-specific fixed-term contract introduced by the 2016 law, which is widely regarded as too costly and poorly adapted to the realities of the sector: the accreditation procedure is time-consuming, esports teams remain financially fragile as they depend primarily on sponsorship revenue, and the high cost of employer social contributions undermines the international competitiveness of French teams.

South Korea, for its part, has seen its Ministry of Culture, Sports and Tourism introduce three standard contracts, which remain non-binding recommendations. In South Korea, the circumvention of labor law is not specific to esports but is symptomatic of a broader trend in Korean society since the 1997 Asian financial crisis, which led to the development of precarious forms of employment that have since become normalized alongside the standard employment contract.

This resulting precarity, however, is increasingly criticized, and early signs of judicial reclassification of contracts into employment contracts can be observed both in esports and in traditional sport, in both French and Korean law.

Unfortunately, such requalification requires litigation before a judge, and therefore only operates as an ex post remedy — once the harm has already occurred. As a result, clubs remain exposed to the risk of reclassification, with significant financial and reputational consequences.

In parallel, since clubs rely on ill-suited contracts, no common regime can govern the relationship — it is up to the contract itself to spell out each party's obligations in precise detail. Because these contracts are not reviewed beforehand, there is a real risk that unfair terms may slip in. As a result, both regulatory frameworks lack binding force and oversight, resulting in normative deficiencies, that undermine the stability and security of Esports, as shown in the Kanavi case.

Methods: Several categories of sources were mobilized for this research. First, official institutional sources were used, including Korean and French statutory texts and relevant judicial decisions from both jurisdictions. These primary legal materials were selected on the basis of their direct relevance to player–club contractual relationships (labor law provisions, esports-specific regulations, and case law addressing contract requalification).

Second, this primary material was complemented by secondary sources — legal scholarship from both Korean and French researchers, published in academic journals, legal handbooks, and specialized esports-

law websites or platforms. These sources were selected for their direct engagement with esports contract law specifically, rather than esports regulation more broadly, in order to keep the analysis focused on the contractual dimension.

Third, in order to move beyond a purely doctrinal reading and verify how these legal frameworks operate in practice, the author consulted directly with Korean lawyers to clarify practical points that were not sufficiently addressed in the available literature

Results: 1. The legal characterization of the player-club relationship remains uncertain. Esports player contracts present distinctive features that sit uneasily within established contractual categories, and the absence of a dedicated legal regime has led clubs to resort to ill-suited instruments, generating legal instability and exposure to reclassification risk. 2. Accordingly, the esports player contract cannot delegate the burden of precisely regulating the contractual relationship to an ordinary-law regime. Yet, the diversity of the services expected from the esports player calls for a particularly detailed framework, covering the full range of aspects of the relationship – whether strictly competitive services or ancillary services, notably those related to the promotion of the player's and the club's image. These various services may fall within a multitude of distinct regulations, such as the influencer law or regulations specific to social media.

3. Beyond the regulation of the player's services during the performance of the contract, the end of the contract and the post-contractual period also call for dedicated treatment. The grounds for contractual termination must in particular be provided for in a manner that guarantees the stability of the contractual relationship, which represents a major stake for the parties. Clubs seek to retain players in whom they have invested significantly, while players require protection against abusive clauses, including unilateral renewal provisions, disproportionate non-compete obligations, and punitive transfer terms.

Practical Implications: This study provides eSports industry stakeholders with a clear account of the applicable legal framework – identifying mandatory content, lawful and unlawful clauses, and unresolved grey areas – while examining the need for targeted legislative intervention.

Conclusion: Esports player contracts currently lack adequate regulation and a coherent legal regime, undermining the capacity of both parties to enter into stable, legally secure contractual relationships. Clubs may face sanctions or find themselves unable to enforce their contracts effectively, while generating uncertainty for players, who are not always in a position to assess the full extent or the lawfulness of their contracts.

Keywords: Legal, Players Contracts, French Law, South Korean Law

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Psychology Support in Professional Esports: Practitioner Perspectives on Challenges, Opportunities, and Applied Practice

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Introduction: Esports players need to navigate stress in high-performance environments, and tailored psychology support may play a crucial role in promoting their health, performance, and long-term development (e.g., Swettenham et al., 2024). Although more practitioners are entering the field, licensed psychologists may remain hesitant due to esports' novelty, limited professional recognition, a lack of evidence-based frameworks, and the dominance of traditional sport and clinical settings (e.g., Cottrell et al., 2019; Leis et al., 2021).

Purpose: This study explores qualified practitioners' experiences of providing psychology support in professional esports, focusing on perceived challenges, opportunities, and recommendations for applied practice.

Methods: Eight qualified psychology practitioners working in high-performance esports (three women, five men) were recruited through purposive and snowball sampling. Participants included licensed or accredited sport and exercise psychology practitioners (n = 6) and licensed clinical psychologists (n = 2), working across different esports titles and countries in Europe, North America, South America, and Australia. Semi-structured online interviews explored their roles, experiences, challenges, opportunities, and recommendations for applied practice. Interviews were analyzed using reflective thematic analysis.

Results: Preliminary findings indicate challenges related to short-term and reactive service provision, limited resources, frequent roster and staff turnover, difficulties gaining buy-in, and uncertainty around role integration. Practitioners also highlighted the need to adapt psychological expertise to esports-specific cultures while maintaining professional boundaries. Female practitioners reported experiences of sexism and additional pressure to establish credibility. Further challenges included demanding schedules, high emotional investment, and difficulties maintaining work–life boundaries. At the same time, practitioners identified opportunities to support player and team development, improve communication and cohesion, foster self-reflection, and promote health-supporting behaviors. They valued meaningful relationships, interdisciplinary and international collaboration, creative freedom, and personal and professional growth. Recommendations centered on openness, patience, perseverance, strategic engagement, and building trust through consistent, context-sensitive work.

Practical Implications: The findings suggest that effective psychology support in esports requires patience, contextual understanding, clear role communication, and attention to professional boundaries. Practitioners

may benefit from professional exchange and strategies that support their long-term sustainability in a novel and often unstable field. For esports teams and organizations, findings highlight the value of integrating psychology practitioners proactively and sustainably rather than only in response to crises. Role clarity, sufficient access to players and staff, and respectful team cultures may strengthen practitioners' contributions to player development, performance, and well-being (e.g., Swettenham et al., 2024).

Conclusion: This study provides preliminary insight into psychology practitioners' experiences in high-performance esports. Findings highlight a demanding but meaningful field shaped by short-term structures, role ambiguity, challenges in building trust, and work–life pressures, alongside opportunities for player, team, and professional development. Clearer role expectations, stronger organizational integration, and sustainable working conditions may support more effective psychological support in esports. Future research may examine differences by gender, professional background, esports title, and competitive context.

Keywords: sport psychology, applied practice, practitioner perspectives, professional esports, qualitative interviews

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Pupil-Heart Synchronization Characterizes Efficient Cognitive-Sensorimotor Performance in Esports

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Introduction: Cognitive–sensorimotor function supports rapid and accurate decision making and behavioral output during esports play; however, the neurophysiological basis of its efficient expression remains unclear. We previously focused on flow as a state of concentration and immersion that facilitates efficient cognitive–sensorimotor function (Gallvan et al., 2021). We then reported that interpersonal pupil synchrony, reflecting central arousal primarily mediated by the locus coeruleus–noradrenergic (LC–NE) system, enhances flow during competitive fighting esports, but is not associated with performance (Harris et al., 2021). Efficient cognitive–sensorimotor performance may require not only rapid central cognitive processing but also coordinated autonomic regulation supporting adaptive motor output. Indeed, previous evidence has shown that intrapersonal brain–heart synchronization is impaired in Parkinson's disease (Candia-Rivera et al., 2024), suggesting that preserved brain–heart synchronization may serve as a neurophysiological basis for efficient cognitive–sensorimotor performance. Therefore, such brain–heart synchronization may be reflected in pupil-heart temporal coupling.

Purpose: We aimed to determine whether pupil–heart synchronization, reflecting intra-individual brain–heart coordination, is associated with efficient in-game performance during esports play.

Methods: Fourteen healthy young men completed repeated sessions of a one-versus-one fighting esports game under three conditions: passive watching, play against a CPU opponent, and human competition (3 sessions per condition). Pupil diameter and heart rate were continuously recorded. Subjective flow (Sports Flow Scale), workload (NASA-TLX), and in-game performance metrics (the number of knockouts, damage dealt, damage taken, and attacking accuracy) were simultaneously assessed. Gameplay sessions were classified using k-means clustering based on changes in pupil diameter and heart rate relative to the watching baseline. Intra-personal pupil–heart synchronization was quantified using cross-recurrence quantification analysis (CRQA).

Results: Three physiological response profiles were identified. The low-deviation profile, characterized by smaller pupil and heart rate changes relative to baseline, showed selectively sustained pupil–heart synchronization, reflected by smaller recurrence radius and longer maximum diagonal line length. This profile was associated with superior in-game performance and lower subjective workload despite not exhibiting higher subjective flow, suggesting a dissociation between subjective flow and efficient performance states. Mediation analysis revealed that reduction in radius was indirectly associated with enhanced in-game performance through reduced subjective workload.

Practical Implications: Joint monitoring of pupil and heart rate dynamics may provide an objective physiological framework for detecting efficient high-performance states and optimizing workload management in competitive esports. Such monitoring may support individualized biofeedback and recovery strategies aimed at preventing overarousal while preserving readiness for rapid adaptive sensorimotor responses. These approaches may help stabilize arousal regulation and maintain composure states during competition, thereby supporting consistent esports performance.

Conclusion: Enhanced pupil–heart synchronization during esports play was associated with superior in-game performance indirectly mediated by reduced subjective workload. These findings suggest that coordinated regulation between pupil-linked central nervous system and heart-linked peripheral autonomic system may support efficient cognitive–sensorimotor performance and underlie zone-like states characterized by regulated arousal, low subjective workload, and high objective performance.

Keywords: pupil dynamics, heart rate, autonomic regulation, cognitive-sensorimotor performance, flow

Relationship Between Esports Performance and Physical Activity Intervention

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Introduction: Esports performance relies on sustained cognitive processing, reaction speed, visuomotor coordination, and fine motor control, while prolonged gameplay is associated with sedentary behavior and mental fatigue (Jenny et al., 2016; Ludyga et al., 2020). Although physical activity is increasingly incorporated into esports practice environments, evidence regarding its direct influence on esports-specific performance remains limited (McNulty et al., 2023).

Purpose: This study examined whether a short-term physical activity intervention could mitigate performance decline during prolonged esports activity. The relationship between physical activity, cardiovascular fitness, cognitive fatigue, EEG activity, and esports-specific mechanical skills was investigated.

Methods: Twelve male esports competitors (mean age = 23.75 years), including professional, semi-professional, and retired high-level players from Rainbow Six: Siege, Counter-Strike 2, and League of Legends, participated in a repeated-measures experimental study. Preliminary assessments included demographic and physical activity questionnaires, a VO_2max treadmill test, and a 30-minute STROOP task performed while wearing a portable EEG device. The esports-specific assessment consisted of four consecutive testing blocks measuring reaction time, visual memory, typing speed, mouse control, and mouse accuracy. Between the second and third blocks participants received a passive break, while between the third and fourth blocks they completed a 15-minute high-intensity interval training (HIIT) intervention. EEG Alpha and Theta wave activity was continuously monitored. Statistical analyses included Friedman ANOVA, paired t-tests, and Pearson correlations.

Results: Mechanical performance generally deteriorated during prolonged gameplay but improved following the HIIT intervention. Compared with the third measurement phase, post-intervention improvements were observed in reaction time (75% of participants), typing performance (75%), visual memory (75%), mouse control (75%), and mouse accuracy (66%). Significant differences across repeated measurements were found for typing speed ($p = .012$), mouse control ($p = .003$), and mouse accuracy ($p = .044$). EEG analyses revealed observable alterations in Alpha and Theta wave patterns during esports activity; however, these changes were not statistically significant. Correlations between VO_2max and

STROOP performance were weak. Subjective responses strongly supported the intervention, with 11 of 12 participants reporting improved well-being and perceived performance following physical activity.

Practical Implications: Short, structured physical activity interventions may represent an effective strategy for maintaining esports performance during extended gaming sessions. Integrating exercise into competitive gaming routines could reduce mental fatigue, sustain mechanical performance, and support healthier behavioral patterns in esports environments.

Conclusion: Acute physical activity appears capable of attenuating performance decline during prolonged esports participation and may positively influence esports-specific mechanical skills. Although EEG findings were inconclusive and the small sample size limits generalizability, the results provide preliminary evidence supporting the integration of physical activity into esports performance optimization models. Larger-scale studies are needed to validate these findings and clarify the underlying physiological mechanisms.

Keywords: esports, performance, physical activity, intervention, EEG

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Sport Psychology Interventions in Esports: A Scoping Review

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Introduction: The growing professionalisation of esports has increased interest in psychological interventions to support player performance and well-being. However, the extent and nature of published intervention research remain unclear. Given the small, heterogeneous, and methodologically diverse evidence base, a scoping review is well suited to map existing research and identify gaps for future work.

Purpose: This study mapped how sport psychology interventions have been described, delivered, and evaluated in esports research. Specifically, it examined study populations, intervention strategies, delivery formats, assessment approaches, and methodological gaps in the current literature.

Methods: The review followed PRISMA-ScR guidance and was pre-registered through the Open Science Framework. Searches were conducted in Web of Science, PubMed, and EBSCOhost databases with no publication date restrictions. Additional reference list screening, citation searching, and hand searching were conducted. Eligibility criteria followed the Population–Concept–Context framework and included peer-reviewed English- or German-language studies describing psychological interventions in competitive esports contexts. Data were extracted descriptively, and methodological features were assessed using the Mixed Methods Appraisal Tool.

Results: Seven studies published between 2022 and 2025 were identified, indicating that published intervention research in esports is still at an early stage. The available evidence was concentrated mainly on League of Legends and Counter-Strike, and samples were predominantly male. Rather than reflecting a coherent intervention literature, the studies varied widely in design, delivery format, target outcomes, and level of ecological validity. Some studies tested brief laboratory-based interventions, such as arousal reappraisal or mindset strategies, whereas others described multi-session applied support involving coping effectiveness training, acceptance-based strategies, psychological skills training, or team-focused workshops. Across studies, interventions primarily targeted stress appraisal, coping, communication, psychological safety, team processes, and performance-related indicators. However, reporting of theoretical grounding, intervention dosage, contextual features, outcome assessment, and follow-up was often inconsistent. Overall, the findings suggest growing interest in psychological interventions in esports, but also highlight a fragmented evidence base that currently limits comparison, replication, and cumulative knowledge development.

Practical Implications: The findings provide coaches, support staff, and applied practitioners with an overview of psychological strategies studied in esports to date. However, the limited and heterogeneous evidence base means that findings should not be interpreted as prescriptive best-practice recommendations. Instead, practitioners should apply psychological interventions in a context-sensitive manner, document intervention delivery and outcomes transparently, and evaluate their work over time. Collaboration between researchers and practitioners may help strengthen the evidence base while respecting the applied realities of esports environments.

Conclusion: Published intervention research in esports remains exploratory and limited in scope. Existing studies show growing interest in psychological support, but inconsistent reporting and diverse methodologies constrain comparison and cumulative interpretation. Future research should include clearer reporting of participant and intervention characteristics, broader esports titles and populations, stronger outcome assessment, and greater use of longitudinal, mixed-method, and ecologically valid designs.

Keywords: sport psychology, intervention, wellbeing, performance psychology

The Challenging Regulation of Esports: the (so) French example

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Introduction: Regulating esports is a challenge common to every state: the sector sits at the intersection of intellectual property, labour law, and sports law, with no settled international model. In 2016, France opted for a purpose-built legal regime, creating a specific employment contract for professional players and a dedicated framework for the organization of competitions.

Purpose: This contribution draws on the French example to illustrate the broader difficulty of regulating esports. It examines the extent to which public regulatory choices have failed to structure the sector, and the consequences of this failure for industry professionals.

Methods: The research draws on the 2016 law and its implementing decrees, on subsequent legislative adjustments, and on bill n° 2106 “for a responsible and attractive esports sector” (“pour un esport responsable et attractif”), tabled in November 2025. The absence of published data on these instruments, together with doctrinal writing pointing to the weaknesses and ineffectiveness of the regime among industry actors, is itself revealing of the regime’s inoperability.

Results: The French esports legislative framework has relied, since the minimalist 2016 regime, on marginal corrective measures — whether through referral to implementing decrees or through reforms — rarely, if ever, followed by effect among professionals.

This inoperative regime reveals the inadequacy of a strict, centralized regime for governing a sector as fast-moving as esports.

This ineffectiveness is further illustrated by the scale of contemporary issues facing the sector that the regime has never addressed:

The complexity of the relationship between sport and esports undermines the strict separation envisaged by the legislature in 2016;

The operational protection of players — particularly their physical and mental health — whose risks are now extensively documented;

Persistent discrimination affecting the women’s competitive scene finds no echo across the entire legal framework, left instead to private and associative initiatives;

The status of the esports agent, finally addressed in the bill, reproduces the same structural flaw by deferring its status to a future decree.

The forthcoming text, by focusing on the employment contract, agent status, and the opening-up of online competitions, once again leaves aside a significant share of the contemporary issues identified — further evidence of a partial and inadequate response to the shortcomings of the original regime.

Practical Implications: The French situation illustrates the risks of regulation disconnected from sector practice. These dynamics offer a useful comparative lens for debates on esports regulation in Asian systems, where different institutional choices have been made.

Conclusion: Esports constitutes a hybrid legal object whose regulation remains fragmented. Far from being a stabilised model, the French example reveals the universal difficulty of regulating esports practice, and offers a cautionary tale for esports stakeholders hoping that a dedicated, strict regime might serve as a silver bullet.

Keywords: esports regulation, French law, player contracts, competition organisation, legal reform

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The Collegiate-to-Professional Pipeline Revisited: Tier 2 Disruption, Publisher Governance, and Talent Development in North American Esports

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Introduction: Collegiate esports has emerged as a distinctive component of the North American esports ecosystem, shaped by higher education structures, publisher-controlled competition, and uneven connections to professional play (Delello et al., 2021; Fisackerly & Hwang, 2024; Kauweloa & Winter, 2019). Previous research identified a bidirectional talent pipeline between collegiate and professional esports, with collegiate players moving into professional competition and former or current professional players entering collegiate programs (Fisackerly & Hwang, 2024). This differs from dominant North American traditional sport models, where professionalization typically ends collegiate eligibility. The 2024 manuscript called for investigation into the dynamics of these pipelines, particularly as the professional ecosystem continues to evolve. In just the two years since this initial observation of this phenomenon, however, both the professional and collegiate ecosystems have experienced major disruption (LoLEsports Staff, 2024, 2025). In League of Legends, Riot Games replaced the previous Academy and Proving Grounds structure with the North American Challengers League in 2023 and later removed the requirement that LCS organizations field NACL teams, contributing to a major restructuring of North American Tier 2 development pathways and renewed experimentation with hybrid-open and promotion-based systems. At the same time, collegiate programs have become increasingly visible in publisher-linked competitive structures, including Riot-supported collegiate circuits in VALORANT and League of Legends and the participation of collegiate teams in semi-professional Tier 2 contexts (College VALORANT 2024-2025: Championship, 2025).

Purpose: This exploratory study revisits the conceptual model proposed by Fisackerly and Hwang (2024) to examine how the bidirectional talent pipeline between collegiate and professional esports has changed as collegiate programs have become more visible within semi-professional competition.

Methods: Methodologically, the study uses a retrospective longitudinal roster-tracing design, drawing on publicly available archival records from Liquipedia to map player movement before, during, and after collegiate participation in Tier 2 competitions. The analysis focuses on collegiate VALORANT and League of Legends teams competing in these spaces since 2023, identifying directional movement between collegiate and professional ecosystems, prior competitive experience among collegiate competitors, and evidence of collegiate programs functioning as supplemental development infrastructure.

Results: While data collection is still underway, the presentation of this full research at ERNC 2026 will include discussion of observed talent moving between both collegiate and professional ecosystems, as well as the performance of collegiate teams against semi-professional Tier 2 teams. Discussion will connect these roster-tracing findings to broader questions of collegiate esports governance, roster development, and professionalization.

Practical Implications: By positioning North American collegiate esports as a case of amateur institutions entering publisher-controlled semi-professional systems, this paper extends earlier work on bidirectional talent pipelines and examines whether collegiate programs are becoming supplemental development infrastructure as professional organizations reduce formal academy investment.

Conclusion: The analysis identifies directional movement between collegiate and professional spaces, prior competitive experience among collegiate Tier 2 participants, and collegiate performance against non-collegiate semi-professional teams. Findings offer implications for collegiate administrators, publishers, and researchers examining esports governance, roster development, and global talent pipelines.

Keywords: Collegiate esports, Talent pipelines, Publisher governance, Esports player development, Tier 2 competition

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The Development and Innovation of the Esports Industry Value Chain in Thailand towards the Creative Economy

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Introduction: Driven by the global shift toward a creative economy, understanding esports is crucial for emerging markets facing structural challenges. Although Thailand boasts Southeast Asia's second-largest gaming market (Asia Sports Tech, 2023), its growth relies heavily on imports (Creative Economy Agency, 2021). Consequently, esports primarily extends the lifecycle of foreign games (Shinnasin Klangthong, 2016), leading to a digital trade deficit (Digital Economy Promotion Agency, 2023).

Purpose: This research investigates the developmental direction, business management innovations, and strategic promotional mechanisms of Thailand's esports industry, with a focus on analyzing its value chain structure.

Methods: This study integrates a documentary analysis of eight strategic documents from the Digital Economy Promotion Agency (DEPA) and the Creative Economy Agency (CEA) with in-depth interviews of 32 experts across academia (n=7), the business sector (n=22), and civil society (n=3). The interview protocol explores organizational roles within the esports ecosystem; stakeholder communication strategies; learning and adaptation for value creation and process innovation; and communication mechanisms driving the creative economy.

Results: The findings reveal that the private sector is the primary driver of Thailand's esports industry, spanning creative, production, distribution, and support initiatives. However, Thai-owned intellectual property (IP) accounts for approximately 2% of the industry's total value (Digital Economy Promotion Agency, 2023), relegating the country to consumer status. This vulnerability stems from shortages in the STEM workforce and English proficiency—fundamental skills required for game development—which directly undermine entrepreneurs' competitiveness in production timelines, market entry, and operational costs (Sawitree Sutthijakra, 2020). Developing human capital is thus paramount for sustainability (Saowaruj Rattanakhamfu et al., 2021), requiring workforce upgrades in technical hard skills, digital applications, coding, foreign languages, and socio-emotional skills (Sarayoot Ratsamee, 2025). Simultaneously, civil society expresses concerns regarding esports' official sports designation. This apprehension arises because a significant number of youths, educators, and parents still lack an understanding of the interconnected business opportunities. This is compounded by a lack of systematic youth protection, in contrast to industry leaders such as China and South Korea (Khunlacha Preedasak, 2023).

Practical Implications: This study argues that Thailand must urgently establish an integrated Master Plan through public-private-academic collaboration, moving away from fragmented, project-by-project support, including direct IP legal mechanisms, consultation services, and systematic youth protection frameworks to address civil society concerns directly. Furthermore, the higher education sector must co-create specialized curricula with industry experts to enhance STEM, coding, and foreign-language proficiencies systematically. This collaboration is vital for building a local workforce that can drive the creative economy.

The esports industry must transition from a passive consumer base to an active, globally competitive creator by focusing on human capital, R&D, and collaborative innovation.

Keywords: value chain, creative economy, Thailand, industry development, stakeholder interviews

The Legislated Athlete: How India's 2025 Gaming Act Redefines the Coach-Player Dynamic and Duty of Care

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Introduction: For decades, the gaming heritage of both the arcade era and the early emergence of esports was shaped by an unregulated culture of endurance commonly described as "the grind," where prolonged gameplay and intensive training were regarded as indicators of dedication and competitive excellence. However, the continuing professionalisation and institutionalisation of esports have generated increasing concerns regarding player welfare, particularly in relation to burnout, psychological stress, and the health implications of sustained competitive participation. As esports evolve into a structured industry with expanding commercial and legal dimensions, athlete health management is gradually transitioning from a matter of competitive preference to one of regulatory concern and legal obligation.

Purpose: This paper examines the transformative impact of India's Promotion and Regulation of Online Gaming Act, 2025 (PROGA) and the establishment of the National Online Gaming Commission (NOGC) on the regulation of player welfare within esports and online gaming environments. It specifically investigates whether the Indian legislative framework represents a shift toward legally enforceable standards of athlete protection and how such regulation redefines the obligations and responsibilities of coaches and other stakeholders.

Methods: The study adopts a doctrinal legal research methodology based on a qualitative analysis of statutory provisions, regulatory structures, and comparative legal frameworks. It critically examines PROGA 2025 and analyses its institutional mechanisms through a comparative assessment of two international regulatory models: Japan's JeSU licensing framework and the predominantly industry-led safeguarding approach like the 2025 British Esports Federation's International Safeguards for Children in esports. In contrary to the PROGA, which demands statutory enforceability and legal accountability, the British framework relies on voluntary organizational pledges and educational initiatives rather than a binding law.

Results: The analysis demonstrates that PROGA introduces a sophisticated governance framework that extends regulatory authority beyond gaming conduct to the broader physical and mental performance environment of players. The powers granted to the NOGC to mandate responsible gaming measures, including enforced gameplay limits, mental health safeguards, and strict age-verification protocols, establish player well-being as a legally protected interest. Furthermore, the framework significantly redefines the role of coaches from tactical advisors into guardians of player welfare, particularly in relation

to minors, thereby creating fiduciary-like obligations that may give rise to administrative and legal consequences in instances of negligence or failure to mitigate burnout and psychological distress.

Practical Implications: The findings suggest that esports organisations, coaches, and regulatory bodies may need to adopt structured welfare protocols and compliance mechanisms that prioritise sustainable athlete management.

Conclusion: The paper concludes that although the historical identity of Esports was built upon the culture of the grind, its long-term future will increasingly depend upon enforceable legal frameworks promoting athlete welfare and longevity. While Western models contribute ethical standards of protection and advocacy, the emerging Asian regulatory model, represented by India's PROGA framework, offers legislative enforceability capable of ensuring sustained institutional stability.

Keywords: India, online gaming regulation, duty of care, player welfare, coach-player relationship

The Many Ways We Play: Validation of the Gaming Engagement Modes Index (GEMI)

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Introduction: The ways in which people engage with games has diversified over time. Modern gaming involves solitary play, cooperative play, and esports across devices from mobile phones to consoles. Yet, most research reduces gaming engagement to estimated hours spent or preferred genre. While existing scales assess motivations or psychological functions of gaming, a gap exists for behavioral measures that capture diverse modes of play.

Purpose: The purpose of this study was to evaluate the new Gaming Engagement Modes Index (GEMI), an index of gaming engagement that captures heterogenous modes of play.

Methods: Participants (n = 1182) from college student, online panel, and gaming tournament samples completed the GEMI. Six items assessed social mode of play (e.g., solitary, cooperative, esports) and four items assessed device use (e.g., mobile phone, desktop). Participants responded on a 7-point behavioral frequency scale (Never to Daily). We computed descriptive statistics, compared two methods of scoring the index (mean and maximum), evaluated criterion validity (AUC, logistic regression) and convergent validity (Pearson correlations, regression), and tested for measurement invariance across sampling context, race/ethnicity, and sex.

Results: Inter-item correlations were low-to-moderate (r=.34-.39), suggesting the GEMI operates as an index of related but non-redundant gaming behaviors. Item means (2.7-5.1), standard deviations (2.0-2.3), and skew (-0.8-0.8) indicated adequate variability, except esports, which had a positive skew consistent with lower prevalence (M=1.9, SD=1.6, skew =1.8). For criterion validity, GEMI scores distinguished between participants recruited at in-person gaming tournaments compared to those in student samples and online panel samples (GEMI mean: $t(141.3)=10.9$, $p<.001$, $d=0.9$, AUC=.75[.70-.79]; GEMI max: $t(321.7)=14.5$, $p<.001$, $d=0.7$; AUC=.71[.68-.75]). GEMI mean remained a significant predictor of tournament status controlling for age and monthly gaming hours (OR=2.27[1.86,2.81], $p<.001$), and a model including GEMI outperformed a covariates-only model (AUC=.77 vs.53, $p<.001$). For convergent validity, hours per month of gaming were moderately correlated with GEMI mean (r =.30) and max (r =.28), and the IGDS-SF9 was positively associated with GEMI mean (r =.43) and max (r=.39). GEMI predicted IGDS-SF9 scores beyond monthly gaming hours ($\Delta R2=.10$ for both scoring methods; $\beta=.33$ for GEMI mean vs $\beta=.23$ for hours). Measurement invariance testing confirmed that the GEMI measures gaming behaviors equivalently across testing contexts, racial/ethnic groups, and sex (all $\Delta CFIs < 0.01$).

Practical Implications: Researchers and practitioners can use the GEMI to efficiently assess multimodal gaming behaviors across diverse populations. The index supports flexible scoring approaches to capture both overall engagement and peak modality-specific involvement, making it useful as a summary measure or screening measure in research on social gaming and esports participation.

Conclusion: The GEMI provides a brief index of gaming engagement that captures heterogenous modes of play. Its validity and broad applicability supports its use in behavioral gaming research where it's crucial to understand how individuals engage beyond how much they play.

Keywords: gaming engagement, scale validation, modes of play, measurement invariance, GEMI

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The Private Ownership of Esport? Video Game Intellectual Property and the Emergence of Lex Sportiva Digitalis

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Introduction: Traditional sports law (lex sportiva) operates under the foundational historical assumption that the rules of play, fields of competition, and athletic tools exist within the public domain, meaning no single sovereign state or private corporate entity holds an intellectual property monopoly over them. Conversely, the contemporary landscape of esports represents a radical structural transformation. In professional competitive gaming, every virtual pitch, rule system, digital referee, and broadcast asset is the proprietary, privately owned intellectual property of a game publisher. This tension has created a sovereign regulatory paradigm where End User License Agreements (EULAs) and Terms of Service (ToS) function as private constitutional charters, granting publishers absolute gatekeeping authority that bypasses historic athletic norms, player-union protections, and traditional sports dispute-resolution structures.

Purpose: The objective of this paper is to analyze the profound friction between traditional sports governance models—which utilize democratic, pyramidal, and non-profit international federations (such as the IESF)—and the highly centralized, profit-driven ecosystems dominated by corporate intellectual property holders.

Methods: To analyze this structural friction and propose a novel theoretical framework, this research approach applies algorithmic governance theories and game-theoretic models to the esports ecosystem. Comparison with the co-regulation of technology and co-regulation of traditional sports will be invoked.

Results: The research demonstrates that an absolute publisher monopoly is ultimately unsustainable for long-term commercial, athletic, and cultural evolution. For esports to achieve institutional stability, a behavioral equilibrium must be struck. The paper conceptualizes this equilibrium as the emergence of Lex Sportiva Digitalis—a modern, transnational digital sports law under which publishers, international athletic bodies, and esports athletes engage in a co-regulatory system.

Practical Implications: Rather than attempting to force digital competition into obsolete legacy sport legal structures, Lex Sportiva Digitalis utilizes hybrid contractual arrangements, private-public IP licensing pathways, and decentralized arbitration boards to govern the ecosystem.

Conclusion: Ultimately, this research demonstrates that the future of competitive gaming lies not in absolute corporate dominion, but in the collaborative formalization of an agile, borderless, and structurally balanced esports jurisprudence.

Keywords: Esports Law, Lex Sportiva Digitalis, Intellectual Property, Esports Governance, Co-Regulation

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The Relationship Between Heart Rate Variability and Chat Behavior in College-Age Valorant Players

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Introduction: Regulating stress is a common challenge for casual and competitive esports players. Mismanagement of player stress often leads to a psychological state called tilt, in which players become frustrated, play worse, and engage in toxic behavior (McLinton & Pascale, 2024). The chat feature in competitive gaming is one avenue where toxicity is most prevalent, including behaviors like flaming and trolling (Adinolf & Türkay, 2018). Strategic sharing of information within the chat feature is also a critical component of team success and a form of communication often used in team contexts to cope with stress (Beres et al., 2023). Heart rate variability (HRV) is a psychophysiological variable related to autonomic stress regulation (Shaffer & Ginsberg, 2017, p. 1). As a potential measure of the player's physiological stress, HRV could be used to assess the likelihood that the player engages in cooperative chat behavior.

Purpose: This study aims to explore the relationship between HRV and chat behavior in casual and competitive college-age Valorant players.

Methods: Twenty-three university-enrolled players with an average age of 20.1 years played one competitive Valorant match while wearing a Polar H-10 heart rate chest monitor. Fourteen subjects were male (63.6%), eight were female (36.4%), and one declined to share their gender identity. 12.5% of the participants were Iron rank, 12.5% Bronze rank, 8.3% Silver rank, 20.8% Gold rank, 8.3% Platinum rank, 16.7% Diamond rank, 8.3% Ascendant rank, and 4.2% Immortal rank. Each match was screen-recorded using OBS Studio. Text from the game's chat log was extracted using a Python script to perform optical character recognition and deduplicate. Transcripts of each player's chat log were manually coded, recording all chat messages by either the player or their teammates, including messages from Valorant's pinging system that allows players to strategically share information with teammates. Typed chat messages were coded as positive, neutral, or negative based on the content of the message. Coding reliability was not formally assessed. Team ping messages were analyzed separately from typed chat messages. The player's average root-mean-square of successive differences (RMSSD) and average high-frequency power (HF) were measured for each round of play using the Kubios Scientific software. Time intervals for HRV analysis ranged from thirty seconds to two minutes, depending on the length of the round.

Results: Pearson R correlations show a significant relationship between chat behavior in the first and last three rounds of play, and chat behavior was consistent across rounds. No relationship between chat behavior in the first three rounds and a player's HRV in the first or last three rounds of a match was found. Similarly, uncooperative chat behavior was not associated with changes in HRV from the first three rounds

to the last three rounds of play based on Pearson R correlations, though the data trended toward a positive relationship. Fisher-Z means indicate that the individual player's chat behavior is associated with their changes in HRV, but with weak effects. Individual player HRV was also related to future chat behavior, with similarly weak effects.

Practical Implications: Findings suggest individual players' changes in physiological stress are weakly associated with future chat behavior. Players and coaches may benefit from monitoring player HRV to assess the likelihood of engaging in toxic or cooperative chat behaviors.

Conclusion: Chat behavior shared a relationship with HRV in Valorant players from this study, but a larger sample size is needed to better understand the dynamic between different types of chat behavior and physiological stress.

Keywords: heart rate variability, chat behaviour, tilt, toxicity, Valorant

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The Role of Social Connection in eSports Mental Health: Differences Between MOBA and FPS Players

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Introduction: eSports have become established as important spaces for social interaction in the online context, particularly among young adults (Shan et al. 2023). Beyond competition, online games share psychological features with physical sports, facilitating collective experiences, interpersonal relationships, and feelings of belonging and social connection (Kegelaers et al, 2024; Soares et al., 2022). However, a significant portion of the psychological literature continues to emphasize the potential negative impacts of gaming on mental health, often overlooking meaningful differences between game genres (Marques et al., 2023).

Purpose: In this context, the present study aimed to examine relationships and group differences between Multiplayer Online Battle Arena (MOBA) and First-Person Shooter (FPS) players in indicators of social connection within eSports contexts and mental health outcomes.

Methods: The study included 146 eSports players (M age = 22.39 years, SD = 3.37), predominantly male (76.03%), distributed between MOBA (n = 82) and FPS players (n = 64). Participants completed the Social Connection Scale, Gaming Behavior Scale, Depression, Anxiety and Stress Scale (DASS), Positive and Negative Affect Scale, and Satisfaction with Life Scale.

Results: Independent samples t-tests revealed that FPS players reported significantly higher levels of social connection ($t(144) = -2.45$, $M = 4.69$, $SD = 1.15$, $d = -0.41$) and individual in-game behavior scores ($t(144) = -2.41$, $M = 3.73$, $SD = 0.82$, $d = -0.40$) compared to MOBA players. In contrast, MOBA players exhibited significantly higher levels of negative affect ($t(144) = 2.24$, $M = 3.78$, $SD = 1.28$, $d = 0.37$). No significant group differences were observed for stress, anxiety, depression, positive affect, life satisfaction, or collective in-game behavior. Pearson correlation analyses showed that social connection was significantly and negatively associated with stress ($r = -0.40$), anxiety ($r = -0.37$), depression ($r = -0.44$), and negative affect ($r = -0.44$), and positively associated with positive affect ($r = 0.41$) and life satisfaction ($r = 0.25$). Although some variability emerged between MOBA and FPS players, formal comparisons of independent correlations did not reveal statistically significant differences between groups. Logistic regression analysis further indicated that higher levels of social connection and anxiety were associated with a greater likelihood of belonging to the FPS group ($\beta = 0.74$), whereas higher levels of negative affect were associated with the MOBA group ($\beta = -0.35$, $p = 0.04$, $OR = 0.71$). The model explained a modest

proportion of variance (McFadden $R^2 = 0.07$; Nagelkerke $R^2 = 0.12$). Moderation analyses indicated that game genre did not significantly moderate the relationship between social connection and mental health indicators, suggesting that observed associations were consistent across both MOBA and FPS contexts.

Practical Implications: Overall, the findings suggest that although MOBA and FPS players exhibit some discrete psychosocial differences, social connection emerges as a key factor associated with better mental health and well-being outcomes across genres, suggesting that fostering positive social interaction in eSports environments may be relevant for player well-being.

Conclusion: These results contribute to a more contextualized and less pathologizing understanding of eSports, emphasizing social processes in competitive online gaming environments.

Keywords: eSports, social connection, mental health, gaming behavior

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Toward Healthier Competitive Gaming Environments: Exploring Japanese Grassroots Esports Ecosystems

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Introduction: Esports research has devoted considerable attention to professionalization, high-level performance, and competitive gaming environments (Jin & Besombes, 2024; Savard, 2025). At the same time, emerging research on grassroots esports suggests that community-based environments can provide spaces for inclusion, socialization, belonging, and player support (Baumann et al., 2024). Japan provides a particularly relevant context for exploring these dynamics, as esports cultures across Asia have developed through distinct national and cultural trajectories (Jin & Kim, 2024), while Japan's developing esports market has received comparatively limited scholarly attention (Meng-Lewis et al., 2026). Its gaming culture also includes distinctive physical and social environments, particularly game centers, that have historically supported interactions and community formation among players (Pelletier-Gagnon, 2019). Exploring these environments may help identify alternative approaches to healthier and more sustainable competitive gaming ecosystems in Canada.

Purpose: As part of my interdisciplinary PhD in Health and Society, this presentation introduces the preliminary reflections and research design of an exploratory project examining Japanese grassroots esports ecosystems. More specifically, the project seeks to explore how Japanese grassroots esports communities organize player support, community participation, and well-being, and to examine how practices observed in Japan may inform Canadian esports initiatives while contributing to a broader dialogue between Japanese and Canadian esports ecosystems.

Methods: Funded by the Tanaka Fund, the project adopts an exploratory qualitative ethnographic approach combining participant and non-participant observation, informal ethnographic conversations, and the collection of relevant public and institutional materials. Fieldwork will be conducted in Japan from September to October 2026 and will include visits to esports organizations, student programs, gaming venues, community spaces, and competitive events. Data collection will focus on how players are supported, how communities are structured, and how physical and social environments shape participation and well-being. Observations will be documented through field notes and, where relevant, photographs and collected materials. The resulting data will be analyzed using reflexive thematic analysis (Braun & Clarke, 2022).

Results: Preliminary findings from the literature review suggest that the Japanese esports landscape differs in several respects from more established international esports markets. Research on esports fans in Japan identifies distinctive preferences in terms of gaming platforms, genres, and motivations, reflecting the

influence of Japan's broader gaming culture and history (Meng-Lewis et al., 2026). The literature also documents a diverse range of contexts, including player health, education, school clubs, gaming facilities, game centers, and regional initiatives. Combined with emerging research on grassroots esports, these findings identify several dimensions to explore during fieldwork, particularly community organization, player support, physical and social environments, and the relationship between competitive gaming and local communities.

Practical Implications: The findings may contribute to the development of healthier and more community-oriented esports initiatives in Canada by identifying practices related to player support, community organization, and the use of physical and social environments. For the Japanese esports ecosystem, the study may contribute to documenting and increasing the international visibility of grassroots practices while providing an external perspective on community esports development. More broadly, the project seeks to foster knowledge exchange between Japanese and Canadian esports communities rather than simply transferring practices from one context to another.

Conclusion: By exploring Japanese grassroots esports ecosystems, this project aims to broaden current perspectives on esports beyond highly professionalized models. Through a dialogue between Japanese and Canadian contexts, the study seeks to contribute to ongoing discussions surrounding player well-being, community infrastructures, and culturally situated approaches to competitive gaming environments.

Keywords: esports, grassroots communities, Japan, player well-being, ethnography, qualitative research

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Tracing Expert Knowledge and Decision-Making in Gameplay: A Hand-Based Notational Analysis

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Introduction: A common methodology in sports science is Performance Analysis (PA) which reviews behaviour naturalistically, encompassing several methods examining behaviour and their determinants (Lames, 2023). One such method is Notational Analysis (NA), the quantifiable recording of critical moments during a task to evaluate contributing factors (Hughes & Bartlett, 2015; Ungvarsky, 2023). Currently both have limited application in esports, despite literature arguing the domain aligns well with PA (Novak et al., 2019; 2020; Smithies et al., 2021). Therefore, there is a justification for further use of PA to analyse player behaviour.

Purpose: This study aimed to identify behavioural patterns in recurring game contexts within competitive Team Fortress 2, a class-based first-person shooter. Four research questions were asked: can game states predict action efficacy; do actions have prevalence in certain game states; which player and team actions have the highest rate of efficacy; and how frequent are actions in different match contexts? Methodologically, the study seeks to evaluate the efficacy of hand-based NA as a form of analysing video game play.

Methods: Data collection was conducted with a bespoke, computerised, hand-based NA system inspired by Lorains et al. (2013). The system has four sections: game details (timestamp & scoreline); game state variables (objectives held, map location, players alive, ‘ultimate ability’ percentage); distinct action (action type, action taken independently, action taken by the team); and action efficacy (effectiveness of independent action & overall team outcome). Twelve public YouTube videos of expert competitive Team Fortress 2 players were analysed; when a distinct action was identified it was recorded alongside match contexts, efficacy was recorded when the action concluded. Chi-squared tests and standardised residuals were used to identify abnormal rates between two variables.

Results: Player behaviour in competitive Team Fortress 2 sees constant adaptation in response to contextual factors, best observed in the oscillation between aggressive actions in advantageous game states, such as greater number of players alive or dominance over game objectives, and the inverse relationship with defensive actions in disadvantageous states. No evidence on consistent predictors of effective actions was found, although collective team actions did have a stronger association with positive outcomes compared to individual actions.

Practical Implications: Telemetry, big data, and machine learning have been used to evaluate esports performance at scale (Xenopoulos et al., 2021; Qian et al., 2022; Sifa et al., 2021). While effective, they are expensive to develop, require technical knowledge to operate, and struggle to distinguish between similar actions with different intents or goals. Hand-based NA presents an alternative method of performance analysis in esports that is low-tech, accessible, and can distinguish subtle behaviours and their contributing factors.

Conclusions: Results suggest that expert Team Fortress 2 players exhibit behavioural adaptation in response to dynamic match scenarios, seen with the oscillation between defensive and aggressive actions depending key game state factors. Findings are consistent with the Recognition-Primed Decision (RPD) model positing that expert decision-making leverages knowledge and experience to recognise a situation and determine the first suitable action, instead of a deliberative process (Klein, 1993).

Keywords: Notational Analysis, Gameplay Analysis, Game Psychology, Naturalistic Decision Making, Expertise

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Ultra-short High-Intensity Intermittent Exercise Promotes Heart Rate Synchrony and Team Performance in Female Esports Players

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Introduction: Team performance in esports requires a balance between individual skill and teamwork. Heart rate (HR) synchrony is a physiological index of interpersonal coordination and team unity; however, excessive synchrony may impair individual performance by reducing autonomous role execution. High-intensity exercise (HIE) enhances inhibitory control, a core executive function supporting individual gaming performance (1). In teams, enhanced inhibitory control may help players regulate self-oriented responses and flexibly coordinate with teammates. We previously found that a 1-minute ultra-short-duration high-intensity intermittent exercise (U-SIE) protocol enhanced inhibitory control and gaming performance in male players, possibly by suppressing excessive HR synchrony. However, its effects on female esports players remain unknown. Females tend to exhibit a “tend-and-befriend” response under stress (2), and team cohesion is more strongly associated with performance success in female teams than in male teams (3). Therefore, U-SIE may adaptively modulate HR synchrony in a sex-specific manner: suppressing excessive synchrony in male players while promoting timely interpersonal synchrony and teamwork in female players.

Purpose: To elucidate whether a pre-game U-SIE protocol promotes HR synchrony and enhances team performance in female esports players.

Methods: A crossover field experiment was conducted during an esports exhibition match. Five female professional players and five male collegiate players participated in both rest and exercise conditions. The 1-minute U-SIE protocol consisted of three sets of 7-second high-knee sprints separated by 20-second rests, followed by 10-minute seated rest. HR was continuously monitored. Ratings of perceived exertion and the Two-Dimensional Mood Scale were assessed before and after the match, and in-game statistics were collected post-match. Cross-correlation analysis quantified HR synchrony, including cross-correlation function and time lag.

Results: U-SIE elevated post-exercise HR to approximately 150 bpm in both sexes, which returned to baseline before the match. During the match, HR was higher under the exercise condition in all players. However, enhanced HR synchrony, characterized by higher cross-correlation function and shorter time lag, was observed only in female players. Concurrently, female players showed an exercise-induced increase in assists per round, which was strongly and negatively correlated with HR synchrony time lag ($r = -0.71$, $p =$

0.02). Psychologically, exercise increased vitality and arousal in male players, whereas it increased stability and comfort in female players.

Practical Implications: The 1-minute U-SIE protocol may serve as a highly time-efficient pre-game warm-up strategy for esports players. This brief, equipment-free intervention may acutely modulate cognitive control and interpersonal physiological coordination, thereby supporting teamwork-related performance in competitive esports.

Conclusion: A brief 1-minute U-SIE promoted adaptive HR synchrony, characterized by shorter time lag, and was associated with increased assists per round in female esports players. These findings suggest that ultra-short HIE may facilitate timely interpersonal coordination and teamwork-related performance in team-based esports.

Keywords: esports, exercise, teamwork, heart rate synchrony, gender difference

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What Do Competitive Players Do With Their Settings? A Multi-Game Esports Configuration Survey

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Introduction: Frame rate and input latency affect competitive performance: Claypool and Claypool (2007) showed this for aiming in first-person shooters, Liu et al. (2021) for local latency in CS:GO, and Watson et al. (2019) for adaptive sync. Yet players must navigate dozens of settings in their games with little guidance. Resources like prosettings.net compile professional configurations, but empirical data on the broader population is missing. Madhusudan and Watson (2021) surveyed 43 Dota 2 players and found that most favored frame rate and disabled VSYNC, though VSYNC is off by default in Dota 2, so this may reflect defaults rather than active choice.

Purpose: Our ongoing survey pairs self-reported data with actual configuration files from players' machines to provide the first multi-game empirical account of competitive player configuration behavior, examining how players handle the quality-versus-performance tradeoff, how well they understand their settings, and whether that understanding shapes their choices.

Methods: This study (IRB #25527) involves an online Qualtrics survey of esports players recruited from game-specific subreddits, Discord servers, and university communities. Participants reported their in-game rank, hours played, configuration priority, settings understanding, and interface usability. They uploaded configuration files, parsed with custom scripts to extract VSYNC status and other settings.

Results: 110 respondents have started the survey so far. The flow moves from demographics to per-game questions to file uploads, so not everyone completed every section: 46 answered questions about specific games, 14 uploaded files. Respondents are serious competitors: 77% play ranked at least several times a week, 59% play to improve their rank, and all reported an in-game rank. Early results from our Qualtrics survey cover 14 PC esports titles across seven genres: tactical shooters, MOBAs, hero shooters, battle royales, sports, strategy, and fighting. Since participants could answer questions about up to three games, 46 respondents provided 44 game responses, each including a visual quality versus frame rate priority. Of those, 75% favored frame rate. Every tactical shooter and battle royale response chose a frame rate. MOBA players were more divided: 56% frame rate, 31% balanced, 13% graphics. Configuration files reinforced the genre pattern: VSYNC was disabled in 12 of 14 parsed files, with both exceptions from genres where respondents indicated weaker performance preference. Even respondents with high-end GPUs (RTX 2060 to 4080 Super) disabled VSYNC. Players with stronger self-rated settings understanding chose frame rate more often (80% Advanced/Expert vs 44% Basic/Novice).

Practical Implications: For game developers, the consistency of performance preferences and near-universal VSYNC disabling suggests an opportunity to align competitive defaults with actual player behavior through genre-aware presets. For esports coaches, the apparent relationship between settings understanding and performance choices suggests configuration literacy could support player development.

Conclusion: In our ongoing survey, early results suggest most competitive players choose performance over visuals, but the degree depends on genre and knowledge of settings. The consistency between survey responses and actual configuration files offers further support for these trends and will let us compare player intent to actual action. Future work will seek to confirm these early results, examine within-genre differences, and broaden analysis beyond VSYNC.

Keywords: game settings, configuration, frame rate, input latency, player survey

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What Do Esports Events Leave Behind? Social Effects and Sponsorship Implications from ASIA esports EXPO 2026

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Introduction: In recent years, esports have expanded globally as a form of digital game competition characterized by interactivity, digitality, and competitiveness, and has increasingly been incorporated into international sport events. However, the institutional position of esports within the sport system remains fluid, and its social effects and potential legacy for local communities have not been sufficiently examined. The 2026 Asian Games in Aichi-Nagoya, where esports will be held as an official medal event, provides an important opportunity to explore what effects esports events may generate for local communities, companies, and participants. PURPOSE and METHODS This presentation examines the expected social effects and sponsorship implications of esports events through the case of ASIA esports EXPO 2026, a related event of the 2026 Asian Games. The study consists of two parts. First, semi-structured interviews were conducted with event providers involved in the Asian Games esports competition, including organizations related to game publishing, event management, local media, and esports promotion. These interviews explored the social effects that stakeholders expected from the event. Second, a questionnaire survey was conducted with visitors to ASIA esports EXPO 2026 to examine event satisfaction, perceived social effects, information channels, sponsor recognition, and expectations for future esports policies.

Results: The findings from the provider interviews identified five categories of expected social effects: human resource development and diffusion, legacy formation, marketing promotion, social significance, and community development. These effects were not limited to immediate outcomes such as event excitement or media exposure. Rather, stakeholders expected broader and longer-term impacts, including the development of internationally capable personnel, continuous local esports events, increased corporate participation, enhanced understanding of diversity, and the growth of gaming communities. The visitor survey also examined a 30-item scale consisting of ten factors. In addition to social effects discussed in previous sport event studies, two esports-specific factors were included: promotion of corporate use and legacy formation. Confirmatory factor analysis indicated that the overall model showed an acceptable level of fit, and the factor loadings, construct reliability, and average variance extracted met standard criteria, suggesting a certain level of reliability and convergent validity.

Practical Implications: Additional results showed that visitors reported high satisfaction with ASIA esports EXPO 2026. The atmosphere of the venue, live viewing experience, trial-play opportunities, and participatory content were evaluated positively. At the same time, improvements were needed in visitor

attraction, publicity, content variety, and the quality of the venue experience. Social media was the main information channel, while sponsor recognition appeared to depend not only on logo exposure but also on experiential touchpoints and visitor flow within the venue.

Conclusion: This presentation argues that esports events should not be understood merely as competitions or entertainment events, but as social platforms connecting local communities, companies, tourism, policy, and community development. It also suggests that sponsorship effects can be enhanced by designing memorable experiential touch points rather than relying only on exposure.

Keywords: esports, social effects, sponsorship, legacy, ASIA esports EXPO 2026

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When the Roster Empties: Sustaining (and Losing) University Esports Teams and Study Programmes in the German-Speaking Region (DACH)

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Introduction: While academic esports expanded rapidly in North America and parts of Asia, in the German-speaking region (DACH) they remain rare and fragile, both as competitive university teams and as study programmes or smaller curricular offerings. As an example, in Austria only two institutions (in the same city) currently commit to and sustain an official university esports team. Many initiatives launch with enthusiasm but stall, contract, or are quietly discontinued, yet the conditions for sustainable academic esports remain poorly understood, especially beyond the dominant North American model. Our study asks which factors and framework conditions enable or undermine the sustainable operation of university esports, teams and study programs alike, in the DACH context. Departing from success-only accounts, we deliberately include dormant, cancelled, and "sunsetting" cases, treating discontinuation as an equally informative outcome.

Purpose: We read academic esports as a multi-level sustainability problem. At the societal level, participation reflects both individualized forms of engagement and the contested capacity of sport to foster social cohesion beyond individual or small-group outcomes (Moustakas, 2024). At the organizational level, university esports can be understood through the broader collegiate sport club model, where clubs often operate through simple, flexible, and informally coordinated structures. Such arrangements foster autonomy and adaptability but may also make programs vulnerable to leadership turnover and dependent on a small number of committed individuals (Springer & Dixon, 2025). At the cultural level, student commitment is shaped by the still-contested and debated legitimacy of video games: in a cultural context marked by a strong work ethic, gaming is rarely read as career-relevant, dampening students' investment and institutional support (Gislam et al., 2025). Consequently, our lens foregrounds the people who carry institutional responsibility rather than players alone.

Methods: Empirically, we conduct an exploratory qualitative interview study (guided interviews, n = 15-20) with stakeholders who have/had responsibility for university esports in varied roles: athletes and team captains, marketing and communication, university sport and infrastructure units, and departmental or administrative leadership, across both ongoing and discontinued teams and programmes. Interviews are analyzed through qualitative content analysis (Kuckartz & Rädiker, 2023), with categories developed

inductively and the framing refined after the first interviews; the findings will inform a subsequent quantitative study phase.

Results: This is an ongoing study and we are looking forward to present our first results in September at ERNC26.

Practical Implications: By examining a comparatively under-studied, structurally constrained regional case, and by learning explicitly from teams and programs that did not survive, our study offers a transferable, organizationally and sociologically grounded account of what makes academic esports durable. It speaks to the conference's focus on collegiate esports development and the governance and management of esports ecosystems and offers an intercultural counterpoint to contrasting successful Asian and North American trajectories.

Conclusion: Drawing on the accounts of those responsible for university esports, including discontinued initiatives, the study identifies the organizational, cultural, and social conditions for sustaining esports, as teams and study programmes, in German-speaking higher education, offering practical guidance for institutions and an international reference point.

Keywords: academic esports, organizational sustainability, program discontinuation, university esport management, German-speaking countries (DACH)

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