



BOOK OF ABSTRACTS

Online Esports Research Network Conference 2025

#ERNC25

Digital Global Experience

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**WHERE GLOBAL ESPORTS
RESEARCH MEETS LOCAL IMPACT**

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Foreword

The *Esports Research Network Conference 2025* (ERNC25) marks a new phase in global academic collaboration and digital scholarship. Structured as a three-day online conference that follows the sun across three continents, ERNC25 exemplifies the possibilities of a networked, inclusive, and interactive model of research dissemination. The conference is organized through regional hubs hosted by Slippery Rock University of Pennsylvania and Michigan State University (Americas), Staffordshire University (EMEA; Europe, the Middle East and Africa), and UNSW Sydney (Asia-Pacific), each operating as both a digital production team and a research community node.

Under the overarching theme *Future Realities: Esports as a Global Lab*, the ERNC25 investigates how esports functions as both an object of study and a methodological framework for understanding digital transformation across education, media, industry, and public life. The conference explores how competitive gaming operates as a laboratory for testing emerging ideas about technology, identity, governance, and inclusion. By engaging esports as both a mirror and a motor of social change, ERNC25 positions the field at the intersection of digital innovation, social impact, and global collaboration.

The scope of submissions and diversity of presenters reflects this ambition. Researchers contribute work spanning esports pedagogy, player well-being, artificial intelligence and analytics, streaming culture, platform governance, global labor networks, the ethics of digital participation, and much more. Many submissions go beyond description to propose new theoretical models and methodological tools for studying esports as a dynamic component of digital society. Several also experiment with practice-based research formats, live demonstrations, and audience interactivity, signaling a broader reimagining of what academic engagement can be in an online-first environment.

The conference format itself embodies these shifts. Hosted on Twitch and supported by livestream production utilizing Corsair Elgato streaming equipment at each regional hub, ERNC25 transforms traditional academic presentations into interactive, co-created experiences that blurs the boundaries between scholarship, performance, and public engagement. Livestreaming presentations on Twitch allows global audience engagement with presenters and with other audience members concurrently worldwide. This format creates an environment that is always live, always local while staying globally accessible, modeling the same agility and adaptability that characterize the esports ecosystem.

Looking ahead, ERNC25 invites participants to envision new frontiers for esports research and digital academia. The contributions emerging from this year's program point toward a research landscape defined by interdisciplinarity, methodological experimentation, and global co-production. From cross-sector collaborations to community-led innovation, the research presented illustrate how esports can inform not only the understanding of competitive digital games but also broader transformations in education, governance, and human connection.

In this way, *Future Realities: Esports as a Global Lab* positions esports research as a catalyst for rethinking how knowledge is created, shared, and experienced in the digital age. The conference thus functions not merely as an event but as an experiment in building the future infrastructure of global academic collaboration.

GLHF,

Seth E. Jenny, ERNC25 Chair

&

Tobias M. Scholz, ERN Chair

Exploring the Benefits of HADO for Physical Health

Cameron Vanloo, University of Staffordshire

Introduction: The intersection of augmented reality (AR) and physical activity presents novel opportunities to address global public health challenges, particularly sedentary lifestyles and physical inactivity. HADO, an AR powered physical sport blending esports dynamics with embodied movement, has emerged as a potential vehicle for promoting physical health in diverse populations.

Purpose: This paper critically examines the physical health benefits of HADO, drawing from interdisciplinary perspectives in sports science, exercise physiology, psychology, and technology studies.

Methods: Employing a mixed methods approach, the study analyses cardiovascular, musculoskeletal, psychomotor, and psychosocial impacts of HADO participation.

Results: The findings suggest that HADO not only meets several criteria for moderate to vigorous physical activity but also enhances adherence through gamification, social interaction, and immersive engagement. However, the paper also problematizes the accessibility and inclusivity of such technologies, addressing the digital divides and socioeconomic barriers that may hinder equitable health promotion. The study aims to contribute to the emerging discourse on AR sports within public health frameworks, proposing pathways for future research, practice, and policy integration. in the use of AR in supporting young people with asd to avoid obesity.

Keywords: Hado, physical activity, Obesity

References

- Bittner, M.D., Rigby, B.R., Silliman-French, L., Nichols, D.L. and Dillon, S.R., 2017. Use of technology to facilitate physical activity in children with autism spectrum disorders: A pilot study. *Physiology & behavior*, 177, pp. 242-246.
- Hsiao, K. F., Chen, N. S., & Huang, S. Y. (2012). Learning while exercising for science education in augmented reality among adolescents. *Interactive learning environments*, 20(4), 331-349.
- Jeon, S., & Kim, J. (2020). Effects of augmented-reality-based exercise on muscle parameters, physical performance, and exercise self-efficacy for older adults. *International journal of environmental research and public health*, 17(9), 3260.

STACKED: A Learning Ecosystem for Sustainable Team Growth in Esports

Enrico Strock, University of Agder

Introduction (background/context): Esports teams operate in unpredictable, high-pressure settings characterized by ongoing meta-changes, information overload, and demanding performance requirements. Even though the growing professionalization of esports, structured systems for team learning, reflection, and role development remain underdeveloped compared to traditional sports or agile work teams. Existing team dynamics often rely on ad hoc routines that undermine psychological sustainability and coordinated development. Prior research (Strock 2025a, Strock 2025b) has identified the potential for agile and organizational learning theories to improve team function in esports but lacks a domain-specific system operationalizing these insights.

Purpose/Research Question (objective): This study introduces and conceptually develops the STACKED Learning Framework - a modular, agile-inspired model designed to embed structured learning, role clarity, and psychological monitoring into the daily routines of competitive esports teams. The research objective is to translate established theories of agile learning, team psychology, and organizational development into a usable, culturally resonant framework tailored for esports contexts.

Methods (approach; data collection/analysis): The research follows a design science methodology (Hevner et al., 2004), treating the STACKED framework as a conceptual artifact grounded in theory and refined through domain translation. A structured literature synthesis was conducted across four domains: organizational learning, agile development, sports psychology, and esports-specific team research. Theoretical constructs (e.g., double-loop learning, reflection-in-action, psychological safety) were abstracted and then operationalized into modular roles, rituals, and artifacts using qualitative coding and design logic mapping. The framework's components were aligned with their source theories via a design rationale matrix to ensure coherence and theoretical traceability.

Results (key findings): The final framework, STACKED, consists of four interlocking components: (1) meta-team roles (Squad Strategist, Learning Coach, and reflective player roles); (2) the Level Loop (an adaptive learning cycle); (3) embedded reflective rituals (Daily Buffs, Round Recaps, XP Boosts); and (4) cognitive tools (Skill Points System, Mental Load Meter, Quest Logs). These elements are gamified and linguistically aligned with esports culture to reduce resistance and promote adoption. The design scaffolds psychological safety, shared mental models, and team resilience's core needs often unmet in current esports practice.

Discussion/Conclusion (interpret findings): STACKED demonstrates how learning theory can be practically embedded in high-velocity, cognitively demanding team environments. It reframes performance not as a reactive grind, but as a cyclical process of team-centered learning. While conceptual, the framework fills a key gap by offering esports teams a usable blueprint for sustainable development. Future empirical work is needed to evaluate adoption, performance impact, and cross-genre adaptability.

Significance (practical implications): STACKED offers coaches, managers, and educators a ready-to-adopt model for fostering reflective team cultures in esports. It equips teams with low-overhead tools to monitor mental load, clarify roles, and align on shared growth objectives—addressing burnout, team instability, and learning inefficiencies. Beyond esports, the model contributes to broader learning system design in other fast-paced, digitally mediated team environments.

Keywords: Esports Team Development, Agile Framework, Organizational Learning, Psychological Safety, Performance

References

- Hevner, A. R., March, S. T., Park, J., & Ram, S. (2004). Design science in information systems research. *MIS Quarterly*, 28(1), 75–105. <https://doi.org/10.2307/25148625>
- Strock, E. (2025a). Agile learning: A comparative theoretical study of Scrum and learning organization principles [Manuscript submitted for publication]. *The Learning Organization*.
- Strock, E. (2025b). Organizational learning in a competitive environment: Parallels between Scrum and esports team practices [Manuscript in preparation]. To be submitted to the *International Journal of Esports*.

Public Policy Design Oriented Towards Venezuelan Electronic Sports

Gabriela León, Universidad Rafael Urdaneta

The study comprises the public policy of e-sports of the Venezuelan Federation of Electronic Sports according to the theory of Joseph Nye (2004) and the instruments of sports policies of Calatayud (2019); with a documentary design, descriptive statistical method and sample of 11 Latin American countries. A checklist was used, which was applied to the Instagram accounts of the most representative sports entities and committees. It was obtained as a result that the investment had structural flaws and citizen participation was not visible in 81.8% in decisions on the matter. It is concluded that the capacity to promote and intervene in e-sports is linked to the planning or public policy model.

Keywords: sports policy; policy making; e-sports; soft power; Venezuelan Olympic Committee.

References

Calatayud, D. 2019. La Diplomacia Deportiva como actor de la España Global. LA Necesidad de un modelo para España. Ministerio de Asuntos Exteriores, Unión Europea y Cooperación. España, Madrid. Online. Available at:
https://www.exteriores.gob.es/es/ServiciosAlCiudadano/PublicacionesOficiales/Diplomacia%20Deportiva_L.pdf. Accessed: July 22, 2024

Understanding Game-Based Learning in Esports Education: A Study in Structure and Impact

Bubba Gaeddert, College of Esports

Introduction: This proposed study will examine the integration of game-based learning (GBL) within a fully esports-focused higher education environment, with the goal of better understanding of how GBL strategies influence engagement, development, and classroom culture in a specialized institution. Conducted at the College of Esports,, this research will explore how GBL functions in a context where all students are studying esports-related disciplines. This contrasts with most existing studies, based in traditional academic institutions or primary/secondary schools, which also offer esports education amongst their other courses and programs (Xiang et al., 2025; Zhong et al., 2024).

Objectives: The study aims to evaluate how game-based learning influences student engagement and academic outcomes within an esports-focused curriculum. It will also examine the development of professional and social skills, including communication, teamwork, and resilience. In addition, the research will explore changes in personal growth, such as shifts in intrinsic motivation and learning habits. Finally, it will assess how the implementation of GBL affects classroom dynamics and the broader institutional culture.

Within the literature review, a clear framework will be established to classify different types of esports structures across educational contexts, addressing how current research often conflates extracurricular, co-curricular, and curricular models of engagement. This structure will guide the research design and analysis, ensuring that findings on GBL are interpreted within well-defined educational settings. Clarifying these distinctions will help avoid common confusion between competitive extracurricular play, academic study of esports, and true game-based learning, where instructional design leverages games to achieve specific learning outcomes. Without this clarity, it becomes difficult to draw meaningful comparisons or identify effective practices.

The study will maintain a clear boundary between GBL and gamification. These two terms are frequently misused interchangeably (Arnab, 2015). The research methods will focus strictly on game-based learning as a pedagogical method and ensure that any gamification is acknowledged but not treated as central to the study.

While GBL has been widely studied in general education environments, such as mathematics, science, or language learning (Connolly et al., 2012; Papastergiou, 2009), research on GBL in educational spaces with

esports is still emerging. This conflation further complicates the interpretation of current findings in esports-related education research.

Recent findings suggest that esports learning environments can enhance employability, 21st-century skills, and classroom engagement (Xiang et al., 2025; Zhong et al., 2024). This project builds on that work by studying students whose entire academic journey centers around esports, offering a novel lens to assess the influence of GBL in a purpose-built curriculum.

The research will begin with a systematic literature review during July and August 2025 to identify key themes and gaps. Based on those findings, a series of GBL activities will be developed and implemented across existing modules in the 2025-2026 academic year. Data collection will run from September to May using mixed methods, including pre/post surveys, reflections, interviews, observations, and embedded game mechanics. Special attention will be paid to inclusive practices and neurodiverse learner engagement. This research explores how game-based learning supports engagement and development within a higher education institution solely focused on esports. Conducted at the College of Esports, it offers a unique opportunity to evaluate GBL in an immersive, esports-specific context, connecting pedagogy directly to industry-relevant skills and learning experiences.

Keywords: Game-Based Learning, Esports Education, Higher Education, Student Engagement, Pedagogical Strategies, Esports Structures

References

- Arnab, S. (2015). Gamification and digital game-based learning in the classroom. ResearchGate. <https://www.researchgate.net/publication/282121007>
- College of Esports. (2025). About the College of Esports. <https://collegeofesports.ac.uk/about-coes/>
- Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & Education*, 59(2), 661-686. <https://doi.org/10.1016/j.compedu.2012.03.004>
- Papastergiou, M. (2009). Digital game-based learning in high school computer science education: Impact on educational effectiveness and student motivation. *Computers & Education*, 52(1), 1-12. <https://doi.org/10.1016/j.compedu.2008.06.004>
- Xiang, J., Cho, M.-O., Ebner, M., & Jabbari, H. (2025). The impact of esports on the development of 21st-century skills and academic performance among youth. *Biomedicine and Neuroscience*, 62(1). <https://doi.org/10.26717/BJSTR.2025.62.009694>

Zhong, Y., Guo, K., & Chu, S. K. W. (2024). Affordances and constraints of integrating esports into higher education from the perspectives of students and teachers: An ecological systems approach. *Education and Information Technologies*, 29(29), 16777-16811. <https://doi.org/10.1007/s10639-024-12482-9>

Measuring the Social Impact of Small-scale Esports Events: A Mixed Methods Investigation

Raphael-Enea Prifti, The Hague University of Applied Sciences

This study explores the societal impact of small-scale esports events. The data was collected in two esports events organized at the Hague university of applied sciences (THUAS) in different timeframes. A mixed methods approach, with a focus on inclusivity, social interaction, community participation, and social integration was used. Esports events can offer competitive experiences and foster a strong sense of community, as evidenced by the survey results showing that visitors think highly of the esports community. One of the key findings is the significant role esports events play in building social connections, followed by participants frequently highlighting the importance of interaction, underscoring how these events contribute to a sense of belonging and social cohesion. Furthermore, attendees praised the diversity of participants and the welcoming atmosphere even in competitive settings which provided networking opportunities. Many participants valued the events as a natural environment forming both social and professional connections, which stemmed from the organized yet relaxed atmosphere that encouraged meaningful conversations and the development of long-term relationships. Esports competitions are uniquely positioned to replicate and, in the future, surpass the societal benefits associated with traditional sports. By attracting diverse audiences and leveraging interactive technologies, esports appeal to younger generations and align with the shift toward immersive entertainment. Ultimately, esports events have the potential to enhance community involvement, encourage social interaction, and promote inclusivity, significantly benefiting to the general well-being of communities. These findings highlight the potential of esports to drive social cohesion and impact behaviours on both individual and collective levels.

Keywords: Esports, Gaming, Social impact, Mixed methods, Events

Sunset Chasers: Labour and Life of Game Service Workers

Magnus Andersen, Roskilde University

Purpose: The digital spaces of online multiplayer video games such as *League of Legends* are increasingly becoming sites for service work due to the proliferation of platform-mediated gig work. Across the globe, a growing number of people are becoming increasingly dependent on this work to make ends meet. While organised competitive gaming – known as electronic sports (esports) – has its professional celebrity players, this group of digital workers finds different ways to reappropriate the playful spaces that most people turn to for leisure into sites for work through these platforms. Yet, despite its growing importance for an increasing number of workers and its emergence as an integral part of the "global gig economy", this form of digital labour is somewhat overlooked in the current literature on platform-mediated gig work.

Objectives: In response, this paper examines the spatial and temporal dynamics that shape the life and labour of game service workers. Discussing the difference between two popular game services known as "boosting" and "coaching", the paper analyses how the spatiotemporal organisation of platform-mediated game service work creates precarious labour even among this group of digital gig workers who occupy a unique position as "high-skilled" workers.

Methods & Results: Drawing on 25 interviews with workers as well as eight months of digital ethnography on game service platforms, the paper discusses three spatiotemporal techniques that organise platform game workers' life and labour from the global scale to the body: i) The spatial conditions of game service work, which make it highly restricted to place despite being integrated into the global gig economy. ii) The temporal conditions of game service work in which workers' everyday lives are structured according to biological and social rhythms of other places as they shuffle between different time zones. iii) The time-work discipline that emerge as workers' respond and adapt to clients' needs and schedules across time zones in an effort to make a living in spaces others use for leisure in their "free time" after having engaged in wage labour themselves. The paper argues that these three techniques show how game service workers do not "follow-the-sun" as many other forms of digital labour but rather chase sunsets in different time zones across the globe, in an effort to make a living in the playful spaces of online multiplayer video games.

Keywords: digital labour, time zones, labour geography, game services, boosting

Nurturing the Next Gen Through Esports: The Evolution of Modern Skills and Modern Learners

Lliam Dickinson, University Centre Barnsley College

Introduction: As education adapts to the demands of a digitised, dynamic and fluid world, esports have emerged as a culturally relevant, interdisciplinary conduit for developing modern skills. Framed within a critical realist framework (Bhaskar, 2008), this study unpacks and examines whether and how esports education environments develop the skills young people need to progress into contemporary employment and broader adult life.

Objectives: The study was structured around two vital questions "Do esports have a role in education? and What mechanisms within esports contribute to modern skill development?"

Methods: Using a pragmatic mixed methods approach, the study involved 62 participants from FE and HE esports courses, primary, secondary and SEND students, educators, and policy stakeholders. Data were gathered through podcasts, digital storytelling, interviews, lesson observations, and questionnaires (Cohen et al., 2018)

Results: Thematic and descriptive statistical analysis has been applied and revealed that esports framed learning supports development in a range of 21st century skills such as digital literacy, communication, collaboration, entrepreneurship, problem-solving, and resilience. Students, especially those who had previously struggled in traditional classroom settings, described having increased confidence and motivation to learn due to the subject, the exciting learning spaces, and authentic learning experiences.

A significant finding was for SEND students, who articulated and demonstrated development not only in employment relevant competencies but also in social communication, autonomy, and self regulation skills essential for broader adulthood and independent living.

In conclusion, this research offers an insight into the potential of esports as a strategic, inclusive educational tool. It makes the case for its thoughtful integration into curricula not just to prepare students for work, but also to equip all learners, including those with SEND, with the life skills needed to thrive in adulthood.

Keywords: esports education, modern and digital skills, SEND, creative methods, critical realism

References

- Bhaskar, R. (2008). *A realist theory of science* (2nd ed.). Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

Managing Players and Performance: Stress and Coping Among Professional Esports Coaches

Oliver Leis, Leipzig University

Introduction: Esports coaches are integral to the development, performance, and overall success of esports players. Sharing the same high-pressure environment, they are likely exposed to similar stressors that can affect not only their effectiveness as coaches but also their personal well-being. Despite their critical role, esports coaches often lack access to structured development programs and support systems. (e.g., Sabtan et al., 2022).

Purpose: To inform future research enabling tailored intervention strategies for coaches, this study aimed to explore the stressors faced by esports coaches and the coping strategies they employ.

Methods: Twelve male esports coaches ($M=29.3$, $SD=6.3$ years), with 2–13 years of coaching experience ($M=6.6$, $SD=3.7$), participated in semi-structured interviews. Coaches described their performance levels as semi-professional ($n=4$) and professional ($n=8$), working in national (e.g., Prime League 1st and 2nd Division) and international leagues (e.g., LEC, LCS, LCK). The interview guide focused on two key questions: "What stressors do you commonly encounter in your role as a coach?" and "How do you manage stress in your coaching role?". Interviews averaged 77 minutes ($SD=13.2$), totaling 15 hours and 28 mins. Data were analyzed through reflective thematic analysis.

Results: The coaches constructed stress as emerging primarily from performance expectations, interpersonal dynamics with players, and broader organizational structures. These stressors were often described as interconnected, and frequently impacted coaches' personal lives, with some expressing experiences of exhaustion or burnout. Coping was framed as a dynamic process, with strategies centered on creating supportive environments, rest as a relational and professional practice, and managing focus, emotions, and meaning to manage demands.

Discussion: Findings demonstrate similarities with previous research on esports players and coaches in traditional sports, highlighting a combination of work-related and personal stressors. Furthermore, the findings suggest that stress and coping in esports coaching are shaped not just by role demands but by the relational and structural conditions in which coaches work. Unlike players, coaches appear to interpret stress through a lens of responsibility and long-term impact, with burnout emerging as a particularly salient outcome. The centrality of communication and the absence of goal withdrawal strategies highlight how coping is as much about sustaining identity and relational function as it is about managing immediate demands.

Significance: The insights point to the need for further research considering personal (e.g., gender) and situational factors (e.g., esports organization), as well as practical implications like communication training and enhanced support to address burnout and stress management. Ultimately, understanding and addressing these stressors can optimize coaches' well-being and professional development, leading to better support for players and improved performance.

Keywords: sport psychology, stress management, emotion, pressure, competitive gaming

References

- Leis, O., Sharpe, B. T., Pelikan, V., Fritsch, J., Nicholls, A. R., & Poulus, D. (2024). Stressors and coping strategies in esports: A systematic review. *International Review of Sport and Exercise Psychology*. Advance online publication. <https://doi.org/10.1080/1750984X.2024.2386528>
- Norris, L. A., Didymus F. F., & Kaiseler M. (2017). Stressors, Coping, and well-being among sports coaches: A systematic review. *Psychology of Sport and Exercise*, 33, 93–112. <https://doi.org/10.1016/j.psychsport.2017.08.005>
- Potts, A. J., Didymus, F. F., & Kaiseler, M. (2024). Psychological stress and psychological well-being among sports coaches: A close proximity longitudinal daily diary study. *Journal of Applied Sport Psychology*, 1–27. <https://doi.org/10.1080/10413200.2024.2344847>
- Sabtan, B., Cao, S., & Paul, N. (2022). Current practice and challenges in coaching Esports players: An interview study with league of legends professional team coaches. *Entertainment Computing*, 42. Advance online publication. <https://doi.org/10.1016/j.entcom.2022.100481>
- Watson, M., Jenny, S. E., & Johnson, T. (2024). Esports coaching. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports* (pp. 203–213). Routledge.

Psychology Practitioners in Esports: Challenges and Opportunities in Applied Practice

Oliver Leis, Leipzig University

Introduction: Esports players face unique challenges, including performance pressure and team issues (Leis et al., 2024), which can negatively impact their health, performance, and development (Smith et al., 2022). To help players manage the demands of esports, sport psychology support appears beneficial (e.g., Swettenham et al., 2024). Despite a growing number of practitioners, licensed sport psychologists may hesitate to enter esports due to its novelty, challenges in recognizing esports within sport psychology (e.g., Leis et al., 2021), limited evidence-based knowledge of the environment (e.g., Pedraza-Ramirez et al., 2020), and established roles in traditional sports (e.g., Leis et al., 2023). Understanding practitioners' experiences is essential to inform both research and practice in the emerging field of sport psychology within esports.

Purpose: This study aims to explore the challenges and opportunities experienced by practitioners delivering sport psychology support at high-performance levels in esports.

Methods: Aligned with Cotterill (2018), the study uses semi-structured interviews with approximately ten practitioners to investigate their experiences (e.g., "How would you describe your initial entry into the field of sport psychology in esports?"), professional philosophies (e.g., "Can you outline your professional philosophy and how you apply it in esports?"), and challenges (e.g., "What challenges do you face in your role as a practitioner in esports?"). Interviews began in February 2025 and are ongoing. Data analysis, guided by reflective thematic analysis (e.g., Braun et al., 2016), commenced during data collection and is being used to inform subsequent interviews.

Results: Preliminary findings, based on interviews with five licensed psychology practitioners (Mage = 33.8 years, SD = 2.5) with an average of 7 years of professional experience (SD = 1.4), highlight several challenges and opportunities. Participants discussed challenges such as the short-term focus of their work - often described as "putting out fires" - and difficulties in gaining player buy-in, associated with lack of trust or dismissive player attitudes. Additional challenges included feeling isolated within team structures, navigating demanding work conditions (e.g., time zones, fragmented schedules), maintaining work-life boundaries, and, for female practitioners, experiences of sexism. Despite these difficulties, practitioners also emphasized meaningful opportunities, including the ability to support and witness player and team development, build strong relationships, travel, engage in passion-driven work, enjoy creative freedom, connect with youthful energy, and experience personal growth.

Discussion: While preliminary findings suggest that practitioners face substantial challenges, they also experience several opportunities to foster growth, build meaningful relationships, and engage in passion-aligned work. The complex landscape highlights the need for further research into how factors such as gender, esports title, competitive level, and temporal changes shape practitioner experiences. A deeper understanding of sport psychology practice in esports may enhance practitioner effectiveness and contribute to more sustainable player development within this evolving performance environment.

Significance: Improving awareness of what psychology practitioners do and the value they can bring may help build trust more quickly within esports environments. This can enhance player engagement and make psychological support more effective from the outset. Over the longer term, addressing broader structural challenges in esports, such as fragmented scheduling, limited role clarity, and lack of institutional support, is also essential. Finally, while not exhaustive, the findings highlight the need to challenge persistent stereotypes and sexism in esports; issues that affect not only female practitioners but are also commonly reported by female players and underscore the importance of promoting equity and inclusion across all levels of the ecosystem.

Keywords: sport psychology, clinical psychology, psychological support, performance, well-being

References

- Cotterill, S. (2018). Working as a sport psychology practitioner in professional cricket: Challenges, experiences, and opportunities. *The Sport Psychologist*, 32(2), 146-155. <https://doi.org/10.1123/tsp.2017-0010>
- Leis, O., Raue, C., Dreiskämper, D., & Lautenbach, F. (2021). To be or not to be (e)sports? That is not the question! Why and how sport and exercise psychology could research esports. *German Journal of Exercise and Sport Research*, 51(2), 241–247. <https://doi.org/f5r3>
- Leis, O., Watson, M., Swettenham, L., Pedraza-Ramirez, I., & Lautenbach, F. (2023). Stress management strategies in esports: An exploratory online survey on applied practice. *Journal of Electronic Gaming and Esports*, 1(1). <https://doi.org/10.1123/jege.2023-0002>
- Leis, O., Sharpe, B. T., Pelikan, V., Fritsch, J., Nicholls, A. R., & Poulus, D. (2024). Stressors and coping strategies in esports: A systematic review. *International Review of Sport and Exercise Psychology*, 1-31. <https://doi.org/10.1080/1750984X.2024.2386528>

- Pedraza-Ramirez, I., Musculus, L., Raab, M., & Laborde, S. (2020). Setting the scientific stage for esports psychology: A systematic review. *International Review of Sport and Exercise Psychology*, 13(1), 319-352. <https://doi.org/10.1123/jege.2023-0002>
- Smith, M., Sharpe, B., Arumham, A., & Birch, P. (2022, March). Examining the predictors of mental ill health in esport competitors. In *Healthcare* (Vol. 10, No. 4, p. 626). MDPI. <https://doi.org/10.3390/healthcare10040626>
- Swettenham, L., Ashford, M., Leis, O. (2024). Applied sport psychology in esports. In S. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports*. Routledge.

Local Platforms, Global Problems: Investigating Gender Inequality in Valorant Through a Private Discord Community in Brazil

Vitória Veiga and Raquel da Silveira, Federal University of Rio Grande do Sul - Brazil

Purpose: This research investigates the pervasive manifestation of hate speech and gender inequalities within the competitive online game Valorant, explicitly highlighting the collision of real-world social issues with virtual gaming environments. Despite the perceived anonymity of digital spaces, online gaming platforms, particularly in competitive esports, frequently reproduce and intensify societal disparities, as evidenced by the escalation of "trash talk" into cyberbullying, cyber-hate, and sexual harassment, predominantly targeting female players. Focusing on the Brazilian context, where Valorant is a leading esports title, this study addresses a critical gap in research concerning the experiences of Brazilian female players.

Methods: Employing a mixed-methods approach, we analyzed 287 public complaints cataloged between June 2020 and January 2025 from a closed, exclusively female Discord group dedicated to Valorant players. The complaints were categorized into nine violence groups (e.g., machismo, homophobia/transphobia, sexual harassment, racism) and further classified into six intensity levels based on adapted scales (Bahador, 2023; Pornying & Tantiniranat, 2024).

Results: Quantitative analysis revealed that machismo (38.68%) and general hate speech (21.26%) were the most frequent subcategories, with "violence" being the most prevalent overall category (39.0%). These findings underscore how the virtual environment of Valorant serves as a global laboratory where real-world social inequalities are not only reproduced but often amplified, leading to the normalization of harmful behaviors.

Discussion: Crucially, in a landscape marked by the ineffectiveness of formal actions from game publishers and the broader community in combating hate speech, this Discord group emerges as a vital mechanism of community-led coping and support. It functions as a safe space for female players, fostering collective resistance and resilience against daily hostility. The analysis of word clouds from complaint posts, showing recurring terms like "match" and "report," indicates that the group not only provides a secure environment for sharing experiences and emotional support but also actively promotes collective action against abusive behaviors. This collective agency directly influences players' continued engagement with the game, demonstrating how grassroots initiatives can empower marginalized groups and contribute to breaking the normalization of hate speech.

This study significantly contributes to the understanding of diversity, equity, and inclusion in esports participation. By examining the unique dynamics within this Brazilian Valorant community, we highlight how esports environments serve as critical testbeds for social transformation, revealing both the challenges of online toxicity and the innovative, community-driven strategies for fostering safer and more equitable digital futures. The lessons learned from this specific case about community support as a coping mechanism are transferable, offering valuable insights for promoting diversity, equity, and inclusion and combating toxicity across various online platforms and emerging digital industries.

Keywords: Gender, Hate Speech, Valorant, Community Support, Esports

References

- Bahador, B. (2023). Monitoring hate speech and the limits of current definition. In E. K. Thorson, S. C. Southwell, & S. M. K. Han (Eds.), *Dealing with digital hate: Challenges, approaches, and solutions* (pp. 291–298). <https://doi.org/10.48541/dcr.v12.17>
- Cote, A. C. (2017). "I can defend myself": Women's strategies for coping with harassment while gaming online. *Games and Culture*, 12(2), 136–155. <https://doi.org/10.1177/1555412015587603>
- Maharani, A. B., Puspita, V., Aurora, R. A., & Wiranito, N. (2024). Understanding toxicity in online gaming: A focus on communication-based behaviours towards female players in Valorant. *Jurnal Syntax Admiration*, 5(5), 1559–1567. <https://doi.org/10.46799/jsa.v5i5.1137>
- Pornyng, W., & Tantiniranat, S. (2024). Hate speech towards female game players in Valorant game. *Journal of English Language and Linguistics*, 5(3), 374–392. <https://doi.org/10.62819/jel.2024.657>

Technocultural Understanding of an Esports Queer Future

Leonardo Colares Castro, Unisinos University

Introduction: Queer futures are intricately connected to esports communities and their defining technocultural aspects. As a radical departure from conventional norms, the esports queer future emphasizes creating inclusive spaces that address the needs of players, streamers, and fans who align with non-conforming identities and toxic masculinity in esports culture. These spaces are essential to fostering a community that transcends the traditional boundaries of gaming culture, facilitating connections among diverse LGBTQIA+ subcultures through their own unique language, values, cultures, and needs (Close, 2024).

Purpose/Research Question: This study aims to explore how postnormal extended presence will shape esports queer futures, based on reflections of some of today's challenges. Specifically, it seeks to answer the question: What aspects of postnormal extended presence are most relevant to creating equitable and inclusive esports spaces for queer communities? This inquiry is informed by a critical understanding of queerness, which emphasizes nonconformity and challenges to dominant worldviews.

Methods: This study will benefit from a netnography (Kozinets & Gretzel, 2024) to identify some of the today's challenges of queering in esports to further expand to postnormal extended presence, as it aims to analyse empirically trends, emerging issues and weak signals and identify how it will manifest in the coming years (Sardar & Sweeney, 2016). Then, by approaching technoculture, esports and queer studies, this research conducts provide thoughts on a possible esports queer future, including discussions on cultural changes fomented by the influencer economy (Kozinets, 2019), transformative justice based on bans, fines, suspensions, and public censure (Close, 2024; Pansera et al., 2019), and brand activism performed through woke branding (Gambetti & Biraghi, 2023).

Results: One significant aspect of extended presence is the integration of online communities as counter-cultural spaces against dominant mainstream culture (Gambetti & Biraghi, 2023). Also, the self-representation based on a community-building endorsed by content creators can benefit esports queerness by providing new markets based on influence (Kozinets, 2019). Through these new communities, the subcultures of queer identities can gain a safe space to protect them from the normative structures that damage marginalized people (Close, 2024). Also, the interest of companies in providing curation (e.g., Steam's LGBTQ+ Inclusive Gaming; Xbox's LGBTQIA+ community games) but a lack of sales represents a serious question. Furthermore, technoculture serves to amplify opportunities for inclusivity and to clarify

how these consumers can be reached. As technologies evolve, they reshape interactions and perceptions within the gaming landscape, offering new avenues through which identities can assert themselves in the influencer economy (Kozinets, 2019).

Discussion/Conclusion: The analysis highlights the role of extended presence to foster inclusive esports communities for queer individuals. By utilizing online communities as spaces for identity affirmation and social interaction, queer narratives gain visibility and challenge the pre-existing norms in esports culture. Strategies must consider community needs and organizational interests to prevent tokenism and ensure sustained engagement with queer audiences.

Significance: The implications of this research have practical significance for game developers, broadcasters, community managers, and influencers who must recognize the transformative potential of esports. Recognizing the implications of extended presence can lead to more equitable esports ecosystems that genuinely support queer communities. Efforts toward inclusivity towards new online social spaces may not only enhance the gaming experience for queer gamers but also reshape the legacy of esports as a truly diverse cultural phenomenon.

Keywords: Queer Futures; Esports; Netnography; Online Communities; Cultural Understanding

References

- Close, S. (2024). Esports cannot defeat homophobia with capitalism. *Games and Culture*, 19(7), 916-932. <https://doi.org/10.1177/15554120231181462>
- Gambetti, R. C., & Biraghi, S. (2023). Branded activism: Navigating the tension between culture and market in social media. *Futures*, 145, 1-21. <https://doi.org/10.1016/j.futures.2022.103080>
- Kozinets, R. V. (2019). Consuming technocultures: An extended JCR curation. *Journal of Consumer Research*, 46(3), 620-627. <https://doi.org/10.1093/jcr/ucz034>
- Kozinets, R. V., & Gretzel, U. (2024). Netnography evolved: New contexts, scope, procedures and sensibilities. *Annals of Tourism Research*, 104, 1-13. <https://doi.org/10.1016/j.annals.2023.103693>
- Pansera, M., Ehlers, M. H., & Kerschner, C. (2019). Unlocking wise digital techno-futures: Contributions from the Degrowth community. *Futures*, 114, 1-9. <https://doi.org/10.1016/j.futures.2019.102474>
- Sardar, Z., & Sweeney, J. A. (2016). The three tomorrows of postnormal times. *Futures*, 75, 1-13. <https://doi.org/10.1016/j.futures.2015.10.004>

The Competitive Esports Physiological, Affective, and Video Dataset

Maciej Behnke, Adam Mickiewicz University

Introduction (background/context): Esports offers a controlled, high-stakes setting in which players' physiological and emotional responses can be monitored in real time during performance. Leveraging this model, our study assembled the first large-scale, multimodal esports dataset to advance research on the interplay between affective states, cardiovascular dynamics, and behavioral outcomes. This dataset is derived from our large-scale project, which is described in detail in Behnke et al. (2024).

Purpose/Research Question (objective): The Competitive Esports Physiological, Affective, and Video (CEPAV, Behnke et al., 2025) dataset was created to (1) provide openly accessible raw data capturing physiological, self-reported affective, and video recordings of esports performance; (2) enable replication and novel analyses in affective computing; and (3) facilitate investigations into how affective interventions influence real-world performance outcomes.

Methods (approach; data collection/analysis): Between April 2023 and September 2024, 300 male Counter-Strike: Global Offensive players (ages 18–32) completed a three-phase experiment in the Psychophysiological Laboratory at Adam Mickiewicz University, Poznań.

- Phase 1 (Laboratory Session 1): Baseline cardiovascular measures (e.g., ECG, ICG, Blood Pressure) and affect questionnaires were recorded before and after a baseline match. Participants were then randomized to a Synergistic Mindsets Intervention (SMI)—focused on reappraisal strategies—or a control "brain facts" group.
- Phase 2 (Daily Monitoring): Over two weeks, participants logged affective self-reports and gameplay data for one "performance-mode" match per day via a smartphone ecological momentary assessment app. SMI participants also reported how they used reappraisal.
- Phase 3 (Laboratory Session 2 & Follow-Up): Participants returned for an eight-match tournament under the same physiological and self-report protocol, followed by an emotion-recall task (narrative descriptions of positive and negative tournament moments). A one-month follow-up captured longer-term affective and well-being outcomes.

Physiological signals from three devices were synchronized, standardized, and provided as merged, user-friendly files. Self-report measures spanned six weeks across three waves, including validated scales of affect, well-being, mindsets, and emotion regulation. Video recordings document 552 laboratory sessions.

Results (key findings): The CEPAV dataset comprises over 3,000 CS: GO matches, 750 hours of cardiovascular recordings, and detailed self-reports from 300 participants. Key dataset features include:

- **Multimodality:** physiological, behavioral (accelerometers), video, affective self-reports, and individual-differences measures.
- **Scale & Structure:** 300 participants across baseline, training, tournament, and follow-up phases; six weeks of daily monitoring.
- **Intervention Data:** randomized SMI vs. control arms enable causal inferences on affect regulation's impact.
- **Data Quality:** standardized formats, synchronized timestamps, and thorough metadata documentation support reproducibility.

Discussion/Conclusion (interpret findings): By publicly releasing raw and processed data, CEPAV addresses a critical gap in affective computing: the need for large, openly shared multimodal datasets. The dataset's size and diversity allow for benchmarking novel machine-learning algorithms, testing physiological markers of stress and performance, and exploring the efficacy of mindset interventions in high-pressure contexts. The inclusion of both controlled laboratory and ecological (daily) data enhances both internal and external validity.

Significance (practical implications): CEPAV empowers researchers to develop and validate affect-aware technologies, such as real-time stress detection, adaptive training systems, and personalized emotion-regulation coaching. Its open access fosters interdisciplinary collaboration, drives methodological innovation in data synchronization and signal processing, and accelerates the translation of affective science into practical applications in esports, human–computer interaction, and beyond.

Keywords: affect, stress appraisals, reappraisal, challenge and threat, mindset

References

- Behnke M., Krzyżaniak W., Nowak J., Kupinski Sz., Chwiłkowska P., Jóźko Białek Sz., Kłoskowski M., Maciejewski P., Szymański K., Lakens D., Petrova K., Jamieson J. P., & Gross J. J. (2025). The competitive esports physiological, affective, and video dataset. *Scientific Data* 12, 56 (2025). <https://doi.org/10.1038/s41597-024-04364-z>
- Behnke M., Lakens D., Petrova K., Chwiłkowska P., Jóźko Białek Sz., Kłoskowski M., Krzyżaniak W., Maciejewski P., Kaczmarek L. D., Szymański K., Jamieson J. P., & Gross J. J. (2024). Applying

a synergistic mindsets intervention to an esports context. Royal Society Open Science (11) 240691.
<https://doi.org/10.1098/rsos.240691>

E-concussion: An Investigation of the Representation of Head Impact Events and Concussion within Popular Sport-based Video Games

Isaac Lockett and Freja Petrie, Kingston University

Introduction: As the boundaries between sport and video games continue to blur, sport-based video games (SBVGs) could be a powerful platform for shaping public perceptions of athletic performance and safety. Given that concussion is a critical safety concern in many sports, and that SBVGs increasingly aim for realism in their portrayal of athletic scenarios, understanding how these games represent head injuries becomes crucial for assessing their educational impact. However, despite their growing realism and global reach, the extent to which concussion is represented in SBVGs remains under-researched.

Objective: This study investigates how head impact events (HIEs) and concussion are portrayed in four popular SBVGs: EA Sports FC 24, EA Sports FC 25, Rugby 22, and Rugby League Live 4.

Methods and Results: Across 68 simulated matches (1,440 minutes per virtual sport), 892 HIEs and 27 injuries were observed. However, only one instance of concussion was identified, and it lacked any reference to medical intervention or removal from play, contradicting real-world protocols (Rugby Football League, 2023; The Football Association, 2024; World Rugby, 2023). This omission is particularly concerning given the educational potential of SBVGs (Cole et al., 2024; Martinez et al., 2022), and with these games having demonstrated capacity to influence health behaviours through immersive gameplay (Castillo et al., 2011; Jenny et al., 2017).

Discussion: The absence of realistic concussion protocols, such as visible player removal or medical assessment, represents a missed opportunity to promote safer behaviours, especially among younger players (Hull et al., 2014; Urschler et al., 2019). Moreover, as these games feature representations of real-life athletes, licensed SBVGs offer a unique opportunity to demonstrate appropriate concussion responses, potentially expanding the role model effect from real-world to virtual sporting settings (Midgley et al., 2021; Piccolo, 2020). The global popularity of SBVGs and their integration into mainstream sport culture (García & Murillo, 2020; Pizzo et al., 2018) means that including concussion protocols represents more than a design improvement; it enables the alignment of entertainment with evolving standards in player welfare.

Following this initial investigation, collaborations between sporting institutions, video game developers and concussion researchers are essential to further develop accurate concussion representation in SBVGs. Sporting institutions possess the regulatory frameworks and real-world protocols necessary to ensure authentic gameplay mechanics, while video game developers bring the technical expertise to implement

nuanced concussion symptoms and protocols within existing technological constraints. Concussion researchers provide the scientific foundation to validate that virtual representations align with current medical understanding, ensuring these games fulfil their educational potential without perpetuating misconceptions about brain injury.

Significance: By embedding accurate and visible concussion responses into gameplay, developers can help normalise safer behaviours and support broader efforts to improve concussion awareness and education (Beakey et al., 2020; Kerr et al., 2022).

Keywords: Sport, brain injury, education, public health, ethics

References

- Beakey, M., Keenan, B., Tiernan, S., & Collins, K. (2020). Is It Time to Give Athletes a Voice in the Dissemination Strategies of Concussion-Related Information? Exploratory Examination of 2444 Adolescent Athletes. *Clinical Journal of Sport Medicine: Official Journal of the Canadian Academy of Sport Medicine*, 30(6), 562–567. <https://doi.org/10.1097/JSM.0000000000000653>
- Busselle, R., & Van den Bulck, J. (2019). Cultivation theory, media, stories, processes, and reality. In *Media Effects: Advances in Theory and Research: Fourth Edition* (pp. 69–82). Taylor and Francis. <https://doi.org/10.4324/9780429491146-5>
- Castillo, H. del, Herrero, D., Monjelat, N., García-Varela, A. B., Checa, M., Castillo, H. del, Herrero, D., Monjelat, N., García-Varela, A. B., Checa, M., Castillo, H. del, Herrero, D., Monjelat, N., García-Varela, A. B., & Checa, M. (2011). IDENTITY & PERFORMANCE: DEVELOPING INNOVATIVE EDUCATIONAL SETTINGS THROUGH SPORT VIDEOGAMES. <https://Library.Iated.Org/View/DELCASTILLO2011IDE>, 236–243.
- Cole, C., Parada, R. H., & Mackenzie, E. (2024). A scoping review of video games and learning in secondary classrooms. In *Journal of Research on Technology in Education* (Vol. 56, Issue 5, pp. 544–577). Routledge. <https://doi.org/10.1080/15391523.2023.2186546>
- Frank, L. B., & Falzone, P. (2021). Entertainment-education behind the scenes: Case studies for theory and practice. In *Entertainment-Education Behind the Scenes: Case Studies for Theory and Practice*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-63614-2>
- García, J., & Murillo, C. (2020). Sports video games participation: what can we learn for esports? *Sport, Business and Management: An International Journal*, 10(2), 169–185. <https://doi.org/10.1108/SBM-01-2019-0006/FULL/PDF>

- Hull, J. G., Brunelle, T. J., Prescott, A. T., & Sargent, J. D. (2014). A longitudinal study of risk-glorifying video games and behavioral deviance. *Journal of Personality and Social Psychology*, 107(2), 300–325. <https://doi.org/10.1037/a0036058>
- Jenny, S., Chung, J., Rademaker, S., & Schary, D. (2017). Learning a Sport through Video Gaming: A Mixed-Methods Experimental Study. *Loading...The Journal of The Canadian Game Studies Association*, 10(17).
- Kerr, Z. Y., Chandran, A., Nedimyer, A. K., Rothschild, A. E., Kay, M. C., Gildner, P., Byrd, K. H., Haarbauer-Krupa, J. K., & Register-Mihalik, J. K. (2022). Use of sport-related concussion information sources among parents of United States middle school children. *Journal of Sport and Health Science*, 11(6), 716–724. <https://doi.org/10.1016/J.JSHS.2020.04.008>
- Martinez, L., Gimenes, M., & Lambert, E. (2022). Entertainment Video Games for Academic Learning: A Systematic Review. *Journal of Educational Computing Research*, 60(5), 1083–1109. <https://doi.org/10.1177/07356331211053848>
- Midgley, C., DeBues-Stafford, G., Lockwood, P., & Thai, S. (2021). She Needs to See it to be it: The Importance of Same-Gender Athletic Role Models. *Sex Roles*, 85, 142–160. <https://doi.org/10.1007/s11199-020-01209-y>
- Piccolo, G. (2020). The Effects of Professional Athletes as Role Models on High School Students. *Kinesiology, Sport Studies, and Physical Education Synthesis Projects*. https://digitalcommons.brockport.edu/pes_synthesis/111
- Pizzo, A. D., Baker, B. J., Na, S., Lee, M. A., Kim, D., & Funk, D. C. (2018). eSport vs. Sport: A Comparison of Spectator Motives (Vol. 27).
- Rugby Football League. (2023). Concussion . <https://www.Rugby-League.Com/Governance/Medical/Concussion>.
- The Football Association. (2023). The FA Concussion Guidelines.
- Urschler, D. F., Heinrich, H., Hechler, S., Fischer, P., & Kessler, T. (2019). The higher they go the harder they could fall: The impact of risk-glorifying commercials on risk behavior. *PLOS ONE*, 14(12), e0225884. <https://doi.org/10.1371/JOURNAL.PONE.0225884>
- World Rugby. (2023). Concussion Guidance | World Rugby. <https://www.world.rugby/the-game/player-welfare/medical/concussion/concussion-guidelines>

“Are We Even Playing the Same Game?”: A Critical Review of Genre Taxonomy in Esports Research

Joshua Lindsey, University of Staffordshire

Introduction: Esports research faces challenges due to its interdisciplinary nature, positioned between video game studies and traditional sports (Brock, 2023; Kanellopoulos & Giossos, 2024). One specific issue lies in the methodological treatment of video game genres, as the term "esports" encompasses a wide variety of current and potential future competitive games with organized structures. Existing academic literature presents varied approaches to categorizing esports genres. For example, Jang and Byon (2020), focusing on spectatorship motivation, proposed a three-category open system: Physical, Imagination, and Sports Simulation. This framework aimed to explore consumer behaviour and marketing crossovers. In contrast, Hamer and Besombes (2024) developed a comprehensive taxonomy identifying 26 genres with additional hierarchical layers. Their work seeks to provide a generalizable framework based on a synthesis of prior literature.

This issue is not confined to esports. Game studies more broadly also struggle with genre classification. Starosta et al. (2024) conducted a systematic review of psychological research in gaming, highlighting inconsistencies in genre labelling across studies and the emergence of hybrid genres. Although they proposed a set of 25 popular genres, they cautioned against rigid classifications and advocated for focusing on in-game mechanics rather than predefined genre categories.

Purpose: This paper builds on Schniz's (2025) argument that video games present "an impossible taxonomy" and applies this concept within the context of esports. Schniz (2025) emphasizes that video games are difficult to classify because they are not only defined by mechanics but also shaped by individual and social experiences. The purpose of this paper is to review existing methodological approaches and taxonomies in esports research, identify key challenges and inconsistencies, and evaluate whether a more unified taxonomy is needed or whether existing taxonomies should be reconsidered or potentially discarded.

Keywords: Genres, Taxonomy, Methodology, Sociocultural Experience, Interdisciplinary

References

- Brock, T. (2023). Ontology and interdisciplinary research in esports. *Sport, Ethics and Philosophy*, 1–17. 10.1080/17511321.2023.2260567
- Hamer, R., & Besombes, N. (2024). *Esports Genres and Games*. (pp. 12). Routledge.

- Jang, W., & Byon, K. K. (2020). Antecedents of esports gameplay intention: Genre as a moderator. *Computers in Human Behavior*, 109, 106336. 10.1016/j.chb.2020.106336
- Kanellopoulos, A., & Giossos, Y. (2024). Esports: Philosophical Perspectives. *European Journal of Physical Education and Sport Science*, 11(1)10.46827/ejpe.v11i1.5383
- Starosta, J., Kiszka, P., Szyszka, P. D., Starzec, S., & Strojny, P. (2024). The tangled ways to classify games: A systematic review of how games are classified in psychological research. *PLoS One*, 19(6), e0299819. 10.1371/journal.pone.0299819

“I think this could work.” – Analytical Thinking and Performance in Esports

Christian Staedter, Gaming Science

Introduction: Video games have become an integral part of modern society (Wijman, 2021), and a platform for players to compete in. Thus, video games are a competitive, dynamic, and complex environment.

Esports is a structured, professional, and competitive form of video gaming (Mendoza et al., 2023; Scholz, 2019), and can be defined as "a form of sports where the primary aspects of the activity are facilitated by electronic systems" (Hamari, & Sjöblom, 2017). Esports athletes train extensively and compete in professional tournaments and leagues with prize pools reaching millions of US dollars (Pedraza-Ramirez et al., 2020; Esports Earnings, 2025).

The Dual-Process Theory of higher cognition is divided into two types of processing:

- Type 1 (T1) is described as being intuitive, fast, automatic, and nonconscious, whereas
- Type 2 (T2) is reflective, slow, conscious, and controlled (Evans, & Stanovich, 2013).

In sports, elite athletes alternate between both modes, which are required for genuine expertise (Toner, & Moran, 2014). Furthermore, characteristics of T2 processes are important in sports and esports performance alike, such as learning from mistakes, thinking strategically, adjusting behaviors, focusing attention, and carrying out game plans or strategies (Furley et al., 2015; Himmelstein et al., 2017).

Purpose/Research Question: The literature lacks insights on how much T2 processing is involved during performance episodes, which T2 processes are used, and whether gamers of higher and lower ranks differ in these aspects. Therefore, the study aims to identify and quantify the T2 processes involved in esports performance by esports athletes and recreational gamers. Which and how much Type 2 processes do video game players employ during competition, and do esports athletes and recreational gamers differ?

Methodology: The study employs a qualitative research approach. A thematic content analysis method was employed, using an inductive and deductive approach, with a literature-based coding scheme (Osmolka, & Lewin, 2023; Thompson et al., 2011; Anderson, & Thoma, 2021; Ainge et al., 2025; McGeown et al., 2021). Over 20 hours of audio and video data from esports athletes and recreational gamers during competitions were coded, using the six T2 processes identified in the literature: learning, reasoning, analytical thinking, rationalization, hypothetical thinking, and rule-based thinking (Evans, & Stanovich, 2013; Furley et al., 2015; Anderson, & Thoma, 2021; Evans, 2019). Second, interviews with players from both groups will be conducted to triangulate results.

Results: Preliminary results show that both groups of players employ T2 processes but to a different degree. However, Esports athletes use more reasoning, rule-based thinking, and express uncertainty. Recreational gamers vocalize more analytical thinking, rationalization, and hypothetical thinking. Both groups of gamers express a similar amount of learning. Overall, recreational gamers use approximately 5% more T2 processing.

Discussion: Results contradict previous findings from the sports literature, highlighting the difference between esports and traditional sports. Furthermore, results hint towards the interplay of T2 processing and level of experience.

Significance: Scholars may leverage results to further explore how humans switch between both modes and the cognitive processes involved. Esports practitioners benefit by advancing training routines for esports athletes.

Keywords: Gaming, Esports, Performance, Dual-Process Theory, Video Games

References

- Ainge, L.E., Edgar, A.K., Kirkman, J.M., and Armitage, J.A. (2025), "Developing clinical reasoning along the cognitive continuum: a mixed methods evaluation of a novel Clinical Diagnosis Assessment", Vol. 25, No. 31, pp. 1-15.
- Anderson, I., and Thoma, V. (2021), "The edge of reason: A thematic analysis of how professional financial traders understand analytical decision making", *European Management Journal*, Vol. 39, No. 2, pp. 304-314.
- Esports Earnings (2025), "Tournament rankings", Esports Earnings, available at: www.esportsearnings.com/tournaments.
- Evans, J.S.B.T (2019), "Reflections on reflection: the nature and function of type 2 processes in dual-process theories of reasoning", Vol. 25, No. 4, pp. 383-415.
- Evans, J.S.B.T, and Stanovich, K.E. (2013), "Dual-Process Theories of Higher Cognition: Advancing the Debate", *Perspectives on Psychological Science*", Vol. 8 No. 3, pp. 223-241.
- Furley, P., Schweizer, G., and Betrams, A. (2015), "The two modes of an athlete: dual-process theories in the field of sport", *International Review of Sport and Exercise Psychology*, Vol. 8, No. 1, pp. 106-124.
- Hamari, J. and Sjöblom, M. (2017), "What is eSports and why do people watch it?", *Internet Research*, Vol. 27 No. 2, pp. 211-232.

- Himmelstein, D., Liu, Y., and Shapiro, J.L. (2017), "An Exploration of Mental Skills Among competitive League of Legends Players", Vol. 9, No. 2, pp. 1-21.
- McGeown, D., Phadraig, C.M.G., Whelehan, D., and Nunn, J.H. (2021), "Dental decision-making under general anesthesia for patients with disabilities: A qualitative study", Vol. 42, pp. 20-27.
- Mendoza, G., Bonilla, I., Chamarro, A. and Jiménez, M. (2023), "The defining characteristics of esports players. A systematic review of the samples used in esports research", *Aloma: Revista De Psicologia, Ciències De L'Educació i De L'Esport*, Vol. 41 No. 1, pp. 111-120.
- Osmolska, D., and Lewis, A. (2023), "Architects' use of intuition in site analysis: Information gathering in solution development", Vol. 87, pp. 1-29.
- Pedraza-Ramirez, I., Musculus, L., Raab, M. and Laborde, S. (2020), "Setting the scientific stage for esports psychology: a systematic review", *International Review of Sport and Exercise Psychology*, Vol. 13 No. 1, pp. 319-352.
- Scholz, T.M. (2019), *Esports is Business: Management in the World of Competitive Gaming*, Springer, Cham.
- Thompson, V.A., Prowse Turner, J.A., and Pennycook, G. (2011), "Intuition, reason, and metacognition", *Cognitive Psychology*, Vol. 63, pp. 107-140.
- Toner, J., and Moran, A. (2014), "In praise of conscious awareness: A new framework for the investigation of continuous improvement in expert athletes.", *Frontiers in Psychology*, Vol. 5, No. 769, pp. 1-5.
- Wijman, T. (2021), "The games market's bright future: player numbers will soar past 3 billion towards 2024 as yearly revenues", *Newzoo*.

Categorical Wild West: The Need to Establish Standards

Christian Staedter, Gaming Science

Introduction: Gaming has established itself as a frequent activity across societies with billions of players worldwide. While most play video games as a leisure activity, esports athletes train extensively and compete in professional tournaments and leagues with prize pools reaching millions of US dollar (Pedraza-Ramirez et al., 2020; Esports Earnings, 2025).

Increased academic research in recent years has shown that types of gamers can be distinguished on various dimensions, e.g. neural features (Ding et al., 2018; Mendoza et al., 2021), cognitive features (Ding et al., 2018; Gong et al., 2016; Tanaka et al., 2013; Lindstedt, & Gray, 2019; Thompson et al., 2023), behavioral features (Kelly et al., 2021; Li et al., 2022; Thompson et al., 2023), health measures and behavior (Kelly et al., 2021; Lee et al., 2020; Mario et al., 2014; Rudolf et al., 2022), physiological features (Tanaka et al., 2013; Mario et al., 2014; Li et al., 2022), motivation (Bányai et al., 2019; García-Lanzo, & Chamarro, 2018), personality traits (Behnke et al., 2023), as well as expertise (in-game or tournament ranks).

However, such differences have yet to be translated into standards to categorize and characterize gamers, posing a gap in the literature. The existing literature uses a wide variety of terminologies and categories for gamers (e.g., esports athletes, hardcore gamers, recreational gamers, and casual gamers) without any clear boundaries and standards for doing so (e.g., using demographic data, in-game or tournament rank, winnings, or experience). This lack in standards leads to inconsistencies and subjectivity (Raetze et al., 2025) within the literature. For instance, as pointed out by Pink et al., (2018) in traditional sports, "it is not enough to assume that the literature which predominantly reports on 'full-time' professional or elite amateur athletes is directly transferable to semi-professional situations". Similarly, findings of a study using recreational gamers may not be applicable to esports athletes.

Although recent research has tackled this issue (Poulus et al., 2024; Bubna et al., 2023), the literature lacks a broader view—beyond esports athletes.

Purpose: The purpose of this opinion piece is twofold. First, highlight examples of the various terminology, categorizations and characteristics of gamers used in the literature. Second, call for future research to narrow in on this issue and establish standards.

Methodology: This work uses the sample from a recent systematic literature in the field (Raetze et al., 2025), supplemented by additional search results screening through adapted focus to fit the purpose of this research.

Results/Discussion: Preliminary results show that the literature is inconsistent and wide-spread with regards to the terminology and categorization of gamers, based on a wide array of characteristics. This highlights the need—beyond elite esports athletes—for future research to establish standards.

Significance: Scholars can leverage this work to close the gap of inconsistent study sample categorization, and establish standards for future research. Scholars would benefit from such standards by enabling better comparability of study results across the field. Practitioners would benefit from a better understanding of the literature and its implications overall.

Keywords: Gaming, Esports, Video Games, Categorization, Opinion Piece

References

- Bányai, F., Griffiths, M. D., Király, O., & Demetrovics, Z. (2018). The Psychology of Esports: A Systematic Literature Review. *Journal of Gambling Studies*, 35(2), 351–365. <https://doi.org/10.1007/s10899-018-9763-1>
- Behnke, M., Stefanczyk, M. M., Żurek, G., & Sorokowski, P. (2022). Esports Players Are Less Extroverted and Conscientious than Athletes. *Cyberpsychology Behavior and Social Networking*, 26(1), 50–56. <https://doi.org/10.1089/cyber.2022.0067>
- Bubna, K., Trotter, M. G., Polman, R., & Poulus, D. R. (2023). Terminology matters: defining the esports athlete. *Frontiers in Sports and Active Living*, 5. <https://doi.org/10.3389/fspor.2023.1232028>
- Ding, Y., Hu, X., Li, J., Ye, J., Wang, F., & Zhang, D. (2018). What makes a champion: the behavioral and neural correlates of expertise in multiplayer online battle arena games. *International Journal of Human-Computer Interaction*, 34(8), 682–694. <https://doi.org/10.1080/10447318.2018.1461761>
- Esports Earnings (2025), "Tournament rankings", Esports Earnings, available at: www.esportsearnings.com/tournaments.
- García-Lanzo, S., & Chamarro, A. (2018). Basic psychological needs, passion and motivations in amateur and semi-professional eSports players. *Revista de Psicologia, Ciències de l'Educació i de l'Esport*, 2018, 36(2), 59-68.
- Gong, D., He, H., Ma, W., Liu, D., Huang, M., Dong, L., Gong, J., Li, J., Luo, C., & Yao, D. (2016). Functional Integration between Salience and Central Executive Networks: A Role for Action Video Game Experience. *Neural Plasticity*, 2016, 1–9. <https://doi.org/10.1155/2016/9803165>

- Kelly, S., & Leung, J. (2021). The New Frontier of Esports and Gaming: A Scoping Meta-Review of Health Impacts and Research Agenda. *Frontiers in Sports and Active Living*, 3. <https://doi.org/10.3389/fspor.2021.640362>
- Lee, S., Bonnar, D., Kim, Y., Lee, Y., Lee, S., Gradisar, M., & Suh, S. (2020). Sleep characteristics and risk factors of Korean esports athletes: an exploratory study. *Sleep Medicine Research*, 11(2), 77–87. <https://doi.org/10.17241/smr.2020.00773>
- Li, H., Lu, Y., & Yan, H. (2022). E-Sports training system based on intelligent gesture recognition. *Computational Intelligence and Neuroscience*, 2022, 1–13. <https://doi.org/10.1155/2022/2689949>
- Lindstedt, J. K., & Gray, W. D. (2018). Distinguishing experts from novices by the Mind's Hand and Mind's Eye. *Cognitive Psychology*, 109, 1–25. <https://doi.org/10.1016/j.cogpsych.2018.11.003>
- Mario, S., Hannah, C., Jonathan, W. C. K., & Jose, L. (2014). Frequent video-game playing in young males is associated with central adiposity and high-sugar, low-fibre dietary consumption. *Eating and Weight Disorders - Studies on Anorexia Bulimia and Obesity*, 19(4), 515–520. <https://doi.org/10.1007/s40519-014-0128-1>
- Mendoza, G., Clemente-Suárez, V. J., Alvero-Cruz, J. R., Rivilla, I., García-Romero, J., Fernández-Navas, M., De Albornoz-Gil, M. C., & Jiménez, M. (2021). The role of experience, perceived match importance, and anxiety on cortisol response in an official esports competition. *International Journal of Environmental Research and Public Health*, 18(6), 2893. <https://doi.org/10.3390/ijerph18062893>
- Pedraza-Ramirez, I., Musculus, L., Raab, M., & Laborde, S. (2020). Setting the scientific stage for esports psychology: a systematic review. *International Review of Sport and Exercise Psychology*, 13(1), 319–352. <https://doi.org/10.1080/1750984x.2020.1723122>
- Pink, M. A., Lonie, B. E., & Saunders, J. E. (2017). The challenges of the semi-professional footballer: A case study of the management of dual career development at a Victorian Football League (VFL) club. *Psychology of Sport and Exercise*, 35, 160–170. <https://doi.org/10.1016/j.psychsport.2017.12.005>
- Poulus, D. R., Sharpe, B. T., Jackman, P. C., Swann, C., & Bennett, K. J. M. (2024). Defining elite esports athletes: a scoping review. *International Review of Sport and Exercise Psychology*, 1–36. <https://doi.org/10.1080/1750984x.2024.2386531>

- Raetze, S., Staedter, C., & Hüllmann, J. A. (2025). Taking aim at research on esports teams: a systematic literature review and cross-disciplinary future agenda. *Team Performance Management*. <https://doi.org/10.1108/tpm-09-2024-0109>
- Rudolf, K., Soffner, M., Bickmann, P., Froböse, I., Tholl, C., Wechsler, K., & Grieben, C. (2022). Media consumption, stress and wellbeing of video game and eSports players in Germany: The eSports Study 2020. *Frontiers in Sports and Active Living*, 4. <https://doi.org/10.3389/fspor.2022.665604>
- Tanaka, S., Ikeda, H., Kasahara, K., Kato, R., Tsubomi, H., Sugawara, S. K., Mori, M., Hanakawa, T., Sadato, N., Honda, M., & Watanabe, K. (2013). Larger right posterior parietal volume in action Video Game Experts: A Behavioral and Voxel-Based Morphometry (VBM) study. *PLoS ONE*, 8(6), e66998. <https://doi.org/10.1371/journal.pone.0066998>
- Thompson, J., O'Camb, J. W., Barrett, R. C. A., Harrison, S., & Blair, M. R. (2023). Robustness of performance during domain change in an esport: A study of within-expertise transfer. *PLoS ONE*, 18(12), e0295037. <https://doi.org/10.1371/journal.pone.0295037>

Emotional Wellbeing in Esports: A Comparative Study of Professional and Amateur Players Using Adapted Clinical Assessment Tools

Heather Jean Greer, S.E.A Dragons Esports

Introduction: Esports is a rapidly growing industry, with increasing attention on player wellbeing due to the high performance demands and unique stressors involved. Despite this growth, mental health challenges within esports remain under-researched, particularly comparing professional and amateur players. Existing literature highlights the psychological risks linked to competitive gaming, such as anxiety, depression, and burnout (Smith et al., 2022; Johnson & Lee, 2023).

Purpose/Research Question: This study aims to explore and compare the mental health status, coping mechanisms, and perceived support among professional and amateur esports players. The key research question is: How do mental health outcomes and support experiences differ between professional and amateur esports competitors? With a touch on how perceived performance differs between these groups.

Methods: A cross-sectional survey design will be employed. Participants aged 18 and above will be recruited from various esports communities. Data collection will include validated self-report measures such as the GAD-7 (Spitzer et al., 2006), PHQ-9 (Kroenke et al., 2001), and CORE-OM (Evans et al., 2002), alongside questions about coping strategies and perceived social support. Quantitative data will be analyzed using descriptive statistics, independent samples t-tests, chi-square tests, and Pearson correlations, conducted in SPSS or R software. Ethical considerations include informed consent, confidentiality, and safeguarding procedures, as all participants are adults and participation is voluntary.

Results: Preliminary analysis (or expected results, if data collection is pending) suggests that professional players may report higher levels of anxiety and depression symptoms compared to amateurs, possibly due to greater performance pressure and public exposure. Differences in coping strategies and perceived support networks are also anticipated, with professionals potentially relying more on formal support structures. Significant correlations between mental health symptoms, coping effectiveness, and support quality are expected.

Discussion/Conclusion: The findings will provide insight into the distinct mental health challenges faced by different tiers of esports players. Understanding these differences can inform tailored wellbeing interventions and highlight areas for improved support. Limitations include the self-report nature of data and potential sample bias.

Significance: This study contributes to the emerging field of esports psychology by offering evidence-based recommendations for coaches, organizations, and governing bodies to enhance player welfare. Improving mental health support systems in esports could promote sustainable careers and better quality of life for players, aligning with industry safeguarding goals.

Keywords: esports, mental health, safeguarding, player welfare, psychological wellbeing

References

- Evans, C., Mellor-Clark, J., Margison, F., Barkham, M., Audin, K., Connell, J. and McGrath, G., 2002. CORE-OM (Clinical Outcomes in Routine Evaluation – Outcome Measure): Development and validation of a self-report measure for psychological distress. *Psychological Medicine*, 32(5), pp.829–842.
- Johnson, R. and Lee, H., 2023. Mental health and burnout in competitive esports: A review of current literature. *Journal of Esports Psychology*, 4(2), pp.56–68.
- Kroenke, K., Spitzer, R.L. and Williams, J.B.W., 2001. The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), pp.606–613.
- Smith, J., Taylor, M. and Wang, Y., 2022. Psychological challenges in elite esports: A call for research and intervention. *International Journal of Sport and Exercise Psychology*, 20(3), pp.245–261.
- Spitzer, R.L., Kroenke, K., Williams, J.B.W. and Löwe, B., 2006. A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), pp.1092–1097.

Systematic Review of Anxiety Indicators, Coping Mechanisms and Stress levels in Esports Athletes

Enzo Vinicius Lesniowski, University of Tsukuba

This article summarizes a study that aims to establish a standard for researching anxiety and stress among esports athletes in Japan. While esports has grown into a global phenomenon—with increasing spectatorship and social influence—Japan's esports scene is still developing, influenced by distinct cultural factors. Despite this growth, there remains a knowledge gap concerning the psychological challenges faced by esports athletes, such as performance pressure, social media exposure, and career instability. This study investigates anxiety among Japanese esports players, using a systematic literature review alongside the development of a protocol to measure anxiety levels and coping mechanisms. The research adopts a holistic perspective, considering both physiological indicators (e.g., cortisol levels) and sociocultural influences. Findings suggest that esports athletes experience high levels of anxiety and employ unique coping strategies shaped by their public roles and cultural context. The study addresses an overlooked area in sports psychology, emphasizing the need for tailored mental health frameworks within the esports environment.

Keywords: Esports, Anxiety, Mental Health, Stress, Cortisol, Sports Psychology, Japan

References

Lesniowski, E. V., & Rakwal, R. (2025). Systematic review of anxiety indicators, coping mechanisms, and stress levels in esports athletes. Manuscript submitted for publication.

Analytic Hierarchy Process Weighted Logistic Regression Models for League of Legends

Ahmad Alif Kamal, Universiti Sains Malaysia

Introduction: Recent years have witnessed explosive growth in esports, with League of Legends (LoL) at the forefront of data-driven competitive gaming. Predicting match outcomes from in-game statistics offers both academic challenge and practical insights for professional teams (Kamal et al., 2025). Traditional machine learning (ML) methods may overlook the importance of in-game factors such as combat effectiveness, farming efficiency, objective control, survivability, and vision (Yang et al., 2022; Ye et al., 2022). This study integrates the Analytic Hierarchy Process (AHP), a multi-criteria decision analysis method, with advanced logistic regression (LR) variants to enhance match outcome prediction and model interpretability (Jassemi-Zargani & Kamps, 2021; Kamps & Jassemi-Zargani, 2018).

Purpose/Research Question: This research investigates: (1) How can expert-derived AHP weights, reflecting core strategic criteria in LoL, be mathematically incorporated into LR models? (2) What insights emerge concerning the relative impact of key gameplay criteria?

Methods: We analysed a publicly available dataset of high-diamond ranked 10-minute matches containing detailed team and player statistics. Each feature was standardized, and features were mapped to five AHP criteria, namely combat (0.1901), farming (0.1558), objective control (0.2917), survivability (0.1640), and vision (0.1984), were applied to aggregate these columns into a single weighted AHP score [6]. This domain-informed feature was added to the standardized dataset. Eight LR model variants were constructed which are baseline, regularized (L2), interaction effects, multinomial, hierarchical, Bayesian (approximated by Gaussian NB), time series (lagged features), and ensemble (bagging). All models used `class_weight='balanced'` to address class imbalance. Performance was evaluated with 80:20 and 90:10 train-test splits, using accuracy, precision, recall, and F1-score. Additional analyses included confusion matrices and an ablation study to assess the marginal value of the AHP feature.

Results: Ensemble LR (bagging) and hierarchical/multinomial LR consistently outperformed other variants, achieving F1-scores of 0.736 (80:20 split) and 0.725 (90:10 split). Baseline and regularized LR also performed strongly. Models with interaction terms or time series lags showed lower predictive utility, highlighting the challenge of capturing non-linear and temporal effects from single-snapshot data. The ablation study revealed that integrating the AHP aggregate feature with full in-game statistics provided the best performance, while AHP alone remained a robust predictor.

Discussion/Conclusion: Mathematically, the AHP score acts as an expert-informed summary statistic, distilling multidimensional match data into a single interpretable predictor. Its inclusion improves model performance, underscoring the importance of domain knowledge in esports analytics. For LoL, objective control and vision are heavily weighted in the AHP and emerge as decisive factors in early game win prediction. Ensemble models' superiority suggests that aggregating multiple logistic perspectives best captures the multifaceted nature of LoL competition.

Significance: This hybrid AHP-LR modelling framework advances the state-of-the-art in esports analytics, blending mathematical rigor with game-specific strategic reasoning. The results offer actionable insights for professional analysts and coaches, emphasizing the tactical priorities most associated with victory. The transparent AHP weighting further bridges the gap between data science and in-game expertise, supporting explainable AI applications in competitive gaming and broader sports analytics.

Keywords: Analytic Hierarchy Process, Machine learning, League of Legends, Logistic regression, Predictive modelling

References

- Jassemi-Zargani, R., & Kamps, C. (2021). Decision Making in Dynamic Environments An Application Of Machine Learning To The Analytical Hierarchy Process. *International Journal of the Analytic Hierarchy Process*, 13(1), 27–50. <https://doi.org/10.13033/ijahp.v13i1.766>
- Jr, J. A. W., Kamal, A. A. bin, & Rahman, S. bin A. (2021). Weighting the Position & Skillset of Players in League of Legends Using Analytic Hierarchy Process. *Journal of IT in Asia*, 9(1), 49–64. <https://doi.org/10.33736/JITA.2846.2021>
- Kamal, A. A., Mansor, Mohd. A., Truna, L., Shaipullah, N. M., & Sultan, N. H. H. (2025). Machine Learning Applications in Multiplayer Online Battle Arena Esports—A Systematic Review. *Pertanika Journal of Science and Technology*, 33(2). <https://doi.org/10.47836/pjst.33.2.11>
- Kamps, C., & Jassemi-Zargani, R. (2018). Weight Adjustment Using Machine Learning Applied to The Analytical Hierarchy Process. *International Symposium on the Analytic Hierarchy Process*.
- Yang, Z., Pan, Z., Wang, Y., Cai, D., Shi, S., Huang, S.-L., Bi, W., & Liu, X. (2022). Interpretable Real-Time Win Prediction for Honor of Kings—A Popular Mobile MOBA Esport. *IEEE Transactions on Games*, 14(4), 589–597. <https://doi.org/10.1109/TG.2022.3149044>
- Ye, D., Chen, G., Zhao, P., Qiu, F., Yuan, B., Zhang, W., Chen, S., Sun, M., Li, X., Li, S., Liang, J., Lian, Z., Shi, B., Wang, L., Shi, T., Fu, Q., Yang, W., & Huang, L. (2022). Supervised Learning

Achieves Human-Level Performance in MOBA Games: A Case Study of Honor of Kings. IEEE Transactions on Neural Networks and Learning Systems, 33(3), 908–918.
<https://doi.org/10.1109/TNNLS.2020.3029475>

Aerobic Exercise Effects on Esports Reaction Time

William Fielding Belk, Arkansas State University

PURPOSE: The aim of this study was to quantify the effects of a 15-minute cycling protocol on point-and-click reaction time and accuracy.

METHODS: A sample of 12 male collegiate eSport athletes ages $20.3 \pm$ performed three reaction time (RT) tests and three point-and-click assessments in an aim trainer program, AimHero. Each assessment was preceded by either no exercise (control) or a 15-minute cycling protocol at a clamped workload of 45 - 55% heart rate reserve at 50 rpm in counterbalanced order in order to prevent exhaustion. RT was assessed using a simple online assessment that requires a mouse click when the color of the screen changes, but no movement of the mouse. Three AimHero assessments followed RT testing, each consisting of stationary and random targets that populated one at a time. Participants were instructed to click as many targets with the fewest misses possible, as quickly as they could. The program provided accuracy data and average time between each hit target.

RESULTS: Aerobic exercise did not improve reaction time ($p=0.38$, $d=0.36$), accuracy ($p=0.24$, $d=0.38$), or point and click time ($p=0.21$, $d=0.26$). Individual effects of aerobic exercise were observed in reaction time and mean accuracy increased by 3.6% from CON to MIC.

CONCLUSION: A 15-minute moderate cycling protocol had no effect on eSport reaction time, accuracy, or point and click time. More studies are needed to confirm the individual effects of the protocol in relation to improvement in reaction time and accuracy.

Keywords: Reaction, aerobic, cycling, performance, esports

References

- Newzoo, Newzoo's Key Numbers | Games, Esports (2022) n.d. <https://newzoo.com/key-numbers/> (accessed March 31, 2022).
- Garg, M., Lata, H., Walia, L., & Goyal, O. (2013). Effect of aerobic exercise on auditory and visual reaction times: a prospective study. *Indian J Physiol Pharmacol*, 57(2), 138-45.
- DE Las Heras B, Li O, Rodrigues L, Nepveu JF, Roig M. Exercise Improves Video Game Performance: A Win-Win Situation. *Med Sci Sports Exerc*. 2020 Jul;52(7):1595-1602.
- American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. Baltimore, MD: Lippincott, Williams, & Williams, 2013. pp. 28–73.

- Skriver, K., Roig, M., Lundbye-Jensen, J., Pingel, J., Helge, J. W., Kiens, B., & Nielsen, J. B. (2014). Acute exercise improves motor memory: exploring potential biomarkers.
- Bauman AE, Craig CL, Marshall AL, et al. International physical activity questionnaire : 12-country reliability and validity. *Med Sci Sport Exerc.* 2000;35(8):1381-1395
- Reaction Time Test, Retrieved October 26, 2020, from <https://humanbenchmark.com/tests/reactiontime>
- AimHero, Progame Studios, 2016, Retrieved October 26 2020 from https://store.steampowered.com/app/518030/Aim_Hero/
- DE Las Heras B, Li O, Rodrigues L, Nepveu JF, Roig M. Exercise Improves Video Game Performance: A Win-Win Situation. *Med Sci Sports Exerc.* 2020 Jul;52(7):1595-1602.
- Yagi, Y., Coburn, K., Estes, K. et al. Effects of aerobic exercise and gender on visual and auditory P300, reaction time, and accuracy. *Eur J Appl Physiol* 80, 402–408 (1999).
- Michel Audiffren, Phillip D. Tomporowski, James Zagrodnik, Acute aerobic exercise and information processing: Energizing motor processes during a choice reaction time task, *Acta Psychologica*, Volume 129, Issue 3, 2008, Pages 410-419, ISSN 0001-6918
- Plante TG, Rodin J. Physical fitness and enhanced psychological health. *Curr Psychol: Res Rev* 1990; 9: 3–24.
- "Physical Activity Guidelines Resources." ACSM_CMS, <https://www.acsm.org/education-resources/trending-topics-resources/physical-activity-guidelines>.
- Nanda, B., Balde, J., & Manjunatha, S. (2013). The acute effects of a single bout of moderate-intensity aerobic exercise on cognitive functions in healthy adult males. *Journal of clinical and diagnostic research: JCDR*, 7

Policing Femininity in Competitive Gaming: A Feminist Ethical Critique of Gender Inequality in Professional Esports

Thao Nguyen Le, KU Leuven

As a growing global trend, esports has revolutionised competitive performance in the digital era. Unlike traditional sports, which, for example, justify the existence of divisions between males and females based on physical differences, esports offers what appears to be a level playing field, devoid of physical strength. Still, regardless of the absence of biological limitations, disparity among genders is strikingly prominent, particularly in professional gaming. In professional esports, women are virtually absent and suffer from pay inequality compared to male gamers. These patterns contradict the self-propagated narrative of esports as a fair and open system. This study aims to explore why professional esports continues to exhibit significant gender inequality, despite appearing to offer an ostensibly equal playing field. It argues that the exclusion of women is not due to skill or interest gaps but is rooted in hegemonic masculinity, a cultural structure that rewards aggression and dominance while policing femininity (Connell & Messerschmidt, 2005). The paper frames this not only as a sociological issue but as a deeper ethical question: What kind of moral community is esports becoming?

The recent study adopts a qualitative theoretical approach grounded in feminist ethics and the sociological theory of hegemonic masculinity. Through discourse analysis of documented cases, such as those of Sasha "Scarlett" Hostyn, Se Yeon "Geguri" Kim, and Maria "Remilia" Creveling, the research integrates academic literature to explore systemic gender exclusion in esports environments (Darvin et al., 2021; Ruvalcaba et al., 2018). Findings reveal several interlinked factors contributing to gender disparity: a structural bias toward PC-based esports titles, which are male-dominated, while female players are more active on mobile platforms gaming with little professional visibility; persistent stereotypes about female gamers' lack of skill, despite empirical studies disproving performance gaps (Shen et al., 2016); hostile online environments and harassment used as a form of gender policing (Darvin et al., 2021); and stark income disparities, with the top female earner ranked over 600th globally (EsportsEarnings, 2025).

The paper concludes that professional esports is not inherently inclusive but instead reproduces cultural and structural mechanisms of hegemonic masculinity. The gender gap is maintained through both direct exclusion (harassment, stereotyping) and indirect mechanisms (lack of institutional support, visibility, and fair opportunities). These systems delegitimise women not due to their ability, but because their presence challenges masculine dominance. A cultural shift is essential to challenge entrenched gender norms in esports. This includes redefining excellence beyond aggression, promoting women's tournaments, and

creating gender-inclusive policies and safe spaces. As esports globalises, it has the opportunity to become a truly equitable and ethically inclusive domain, but only if it actively dismantles the hegemonic structures it has inherited.

Keywords: gender inequality, hegemonic masculinity, professional esports, feminist ethics, exclusion

References

- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society*, 19(6), 829–859. <https://doi.org/10.1177/0891243205278639>
- Darvin, L., Holden, J., Wells, J., & Baker, T. (2021). Breaking the glass monitor: Examining the underrepresentation of women in esports environments. *Sport Management Review*, 24(3), 475–499. <https://doi.org/10.1080/14413523.2021.1891746>
- Ruvalcaba, O., Shulze, J., Kim, A., Berzenski, S. R., & Otten, M. P. (2018). Women's experiences in eSports: Gendered differences in peer and spectator feedback. *Journal of Sport and Social Issues*, 42(4), 295–311. <https://doi.org/10.1177/0193723518773287>
- Shen, C., Ratan, R., Cai, Y. D., & Leavitt, A. (2016). Do men advance faster than women? Debunking the gender performance gap in MMOs. *Journal of Computer-Mediated Communication*, 21(4), 312–329. <https://doi.org/10.1111/jcc4.12159>

Female Esports Fans, Transparasocial Relationships, and Community Dynamics

Sofia Anerousis, Boston University

Introduction: While esports fandoms have historically been male-dominated, recent data shows that female audiences are slowly growing to just over 30% of viewers (Gough, 2024). Despite their increasing visibility and significant financial contributions to the esports ecosystem (Hong & Choi, 2024), they remain an under-researched topic in scholarly literature. Limited extant research on women in the esports space makes evident that they face discrimination and scrutiny similar to the experiences of women both in the generalized gaming community, and in fanbases more broadly (Clarke, 2019). This is often due to the fact that female fans' relationships with their idol or media of choice can be seen as "obsessive" or "unhealthy" in comparison to those of male fans (Savigny, 2015). The pejorative term 'fangirl' is often applied to female fans to denote their 'problematic' relationship to the focus of their fandom.

Research Questions: This research explores how female esports fans experience and define their fandom. Specifically, it investigates:

- RQ1: How do female esports fans perceive their relationships with esports players?
- RQ2: How do they perceive their relationships with other fans?
- RQ3: How do they define their role and identity within the community?
- RQ4: How do they navigate stereotypes and structural barriers in esports culture?

Method: This study utilized hourlong semi-structured, in-depth interviews in order to develop an in-depth understanding of female esports fans' experiences. Interviews were conducted via a video conferencing platform with female esports fans of Overwatch League (7) and League of Legends (5).

Results: Findings revealed diverse motivations for fandom, with team branding, player personality, and community being major factors. Participants acknowledged the parasocial stereotype surrounding female fans, and either admitted to having had parasocial relationships or actively trying to avoid these stereotypes by maintaining an appropriate distance between them and their favorite player(s). Most participants noted a majority positive experience within their communities, with only two reporting negative experiences. Participants mentioned that they had to curate a community of likeminded people for a positive online experience, and that in person events are much more welcoming than online communities. Few participants experienced harassment, but this is likely because they adjusted their behavior to avoid it.

Discussion/Conclusion: This research works to break down dominant narratives about female fans being overly emotional or attached, and not enjoying esports for the game itself. Participants didn't exhibit

parasociality; rather, they expressed intentional fandom practices shaped by lived experience, platform dynamics, and self-regulation. The "K-pop-ification" of esports, where female fans import fan labor practices from music fandoms like creating fan edits and photocards, was viewed as both empowering and controversial, emphasizing tensions between traditional male-dominated fan cultures and emerging female-centric modes of engagement. Notably, fans demonstrated agency in curating their experiences, building communities, and resisting gendered stereotypes.

Significance: This study highlights the importance of recognizing female esports fans as nuanced, active participants whose behaviors and desires challenge the status quo of esports engagement. Understanding their perspectives offers esports organizations and marketers insight into cultivating more inclusive environments and audience strategies. As the female fan base continues to grow, addressing structural sexism and supporting diverse fan cultures will be critical to the evolution of the esports industry.

Keywords: fandom, online communities, female esports fans, parasocial relationships, gender and gaming culture

References

- Clarke, L. (2019, December 24). Online culture can be toxic. These women gamers are fighting back. *The Washington Post*. <https://www.washingtonpost.com/graphics/2019/sports/toxic-online-culture-women-esports/>
- Gough, C. (2024, February 13). Global female eSports audience by country 2020. *Statista*. <https://www.statista.com/statistics/1109959/global-female-esports-audience/>
- Hong, P.-S., & Choi, E.-K. (2024). A Study on Differences in Intimacy and Loyalty by Gender Among Taiwanese Esports Fans. *Journal of Korea Game Society*, 24(4), 99-108.
- Savigny, H., & Warner, H. (Eds.). (2015). *The Politics of Being a Woman*. Palgrave Macmillan UK. <https://doi.org/10.1057/9781137384669>

Assessment of Hydration Status of Collegiate Esports Players

Trace Dominy, Thomas Andre, Brooke Gilmore, Brooke Gilmore, University of Mississippi

Introduction: Water is an essential nutrient that accounts for 50-70% of the human body's weight and approximately 75% of the brain's composition (Popkin et al., 2010; Wittbrodt et al., 2018). Cognitive performance and mood have been shown to decline with as little as a 2% loss in body mass due to dehydration. Dehydration has also been linked to negative effects on reaction time, attention, short-term memory, concentration, task completion, and increased fatigue (Bar-David et al., 2005; Benton et al., 2016; Masento et al., 2014). Maintaining adequate hydration may be particularly important for Esports players, especially during prolonged practice and competition sessions. Novice players average 50–100 actions per minute, while top Esports athletes can perform 500–600 actions per minute.

Purpose: The purpose of this study was to assess the daily hydration status of Esports players.

Methods: Seven players from the University of Mississippi Esports team participated in the study. During the first visit, participants completed an informed consent form, a fluid intake questionnaire, a thirst visual analog scale (VAS), and provided a urine sample. On each subsequent visit, participants provided a urine sample and completed the thirst VAS, where 0 indicated "not thirsty at all" and 10 indicated "extremely thirsty." Hydration status was determined by measuring urine specific gravity (USG) using a refractometer. USG values were classified as follows: Hydrated: 1.000-1.019; Minimally dehydrated: 1.020-1.025; Significantly dehydrated: ≥ 1.030

Statistical Analysis: Using SPSS IBM (V 30) a Pearson correlation was conducted to determine the relationship between USG, thirst, and daily fluid intake. Statistical significance was set at $p < 0.05$.

Results: A significant inverse relationship was found between USG and daily fluid intake ($r = -0.91$; $p = 0.004$). There was no significant relationship between USG and thirst ($r = 0.05$; $p = 0.825$) and thirst and daily fluid intake ($r = -0.21$; $p = 0.660$).

Discussion: These findings are unique as this is the first study to investigate the daily hydration status of Esports players. From this limited data set we found that as daily fluid intake decreases dehydration levels increase. The average USG of our participants was 1.026 (moderately dehydrated) and only one of the urine samples had a USG less than 1.020. Our study reported similar findings as an earlier study where hydration status of Esports players was assessed during a live competition. The study found that 60.2% of participants were significantly dehydrated, 25.2% were minimally dehydrated, 4.1% were seriously

dehydrated, while only 10.2% were well hydrated (Riberio et al., 2024). These findings as well as our own indicate that most Esports players are dehydrated.

Significance: Esports performance requires high-level cognitive abilities, including strategic thinking, rapid decision-making, low reaction times, precise hand-eye coordination, and resistance to fatigue (Nagorsky et al., 2020; Ribeiro et al., 2024). While the brain can compensate for fluid deficits for short periods, it may not be able to sustain the cognitive effort required for extended gaming sessions. These findings, along with prior research, suggest that Esports players may be at a disadvantage due to inadequate hydration practices. Future research is warranted to examine the impact of hydration status on gaming performance.

Keywords: Hydration, Esports, Cognitive, Gaming Performance

References

- Bar-David, Y. A. I. R., Urkin, J., & Kozminsky, E. L. Y. (2005). The effect of voluntary dehydration on cognitive functions of elementary school children. *Acta paediatrica*, 94(11), 1667-1673.
- Benton, D., & Young, H. A. (2015). Do small differences in hydration status affect mood and mental performance?. *Nutrition reviews*, 73(suppl_2), 83-96.
- Masento, N. A., Golightly, M., Field, D. T., Butler, L. T., & van Reekum, C. M. (2014). Effects of hydration status on cognitive performance and mood. *British Journal of Nutrition*, 111(10), 1841-1852.
- Nagorsky, E., & Wiemeyer, J. (2020). The structure of performance and training in esports. *PloS one*, 15(8), e0237584.
- Popkin, B. M., D'Anci, K. E., & Rosenberg, I. H. (2010). Water, hydration, and health. *Nutrition reviews*, 68(8), 439-458.
- Ribeiro, F. J., Teixeira, R., & Póinhos, R. (2024). Hydration status of esports players in a live competition. *Science & Sports*, 39(7), 581-587.
- Wittbrodt, M. T., & Millard-Stafford, M. (2018). Dehydration impairs cognitive performance: a meta-analysis. *Med Sci Sports Exerc*, 50(11), 2360-2368.

Sustainability of Esports Performance: Physiological and Cognitive Training in Professional Players

Clément Thillier, Institut des Sciences du Sport-Santé de Paris - Université Paris Cité

Introduction: Cognitive performance is a key determinant of in-game success in the field of esports. Paradoxically, there is very little data in the scientific literature that supports the implementation of specific training methods aimed at improving cognitive performance in esports athletes, and potentially their in-game performance. To date, such data is virtually nonexistent when it comes to professional esports players.

Purpose/Research Question: To support the development of training programs tailored to the professional esports population, a doctoral research project is currently underway to assess the impact of two specific training programs, cognitive-motor and physical, on the cognitive and physical performance of professional players in the games League of Legends (LoL) ($n = 5$) and Valorant ($n = 5$).

Methods: The study population consisted of 10 professional players: 5 from League of Legends (age = 23.0 ± 2.83 ; League Points = 1725 ± 200 ; daily matches = 11.80 ± 1.64 ; years as competitors = 6.9 ± 1.64) and 5 from Valorant (age = 20.2 ± 1.64 ; Valorant Points = 1081 ± 218 ; daily matches = 6.80 ± 0.84 ; years as competitors = 3.30 ± 2.20).

The methodology used was a Single-Case Experimental Design (SCED) given the study context and the sample size ($n = 10$). More specifically, a replicated randomized crossover study with a multiple-baseline single-case A-B-C phase design was conducted. The initial phase (Phase A) involved no intervention, allowing players to continue their usual routines. Physical training (HIIT) (Phase B) consisted of a series of HIIT sessions. Cognitive-motor training (CMT) (Phase C) included various dual-task exercises of increasing difficulty.

The intervention sequence (ABC or ACB) and the baseline duration were determined using a two-arm randomization process (R software).

Players completed 2 training sessions (either CMT or HIIT) per week for 4 weeks. At the end of the 4-week period, players completed the second type of training that was not carried out during the first 4 weeks (either CMT or HIIT) to allow for a crossover analysis of player adaptations.

Physical performance parameters: heart rate variability (HRV), heart rate (HR), total power (TP), low-frequency/high-frequency power ratio (LF/HF), root mean square of successive differences (RMSSD), and its natural logarithm $\ln(\text{RMSSD})$.

Cognitive performance parameters: working memory and inhibition using the Dots Task performed on the Inquisit 6 Web software. Reaction time (RT) and accuracy (Acc) were also recorded.

The collected data were processed using descriptive analysis, including a visual analysis (VAIOR) followed by a measure of effect size (SMD). Percentage changes in the various parameters were also calculated.

Results: Preliminary results suggest that training in general significantly improves cognitive functions (improvement in reaction time and accuracy) in professional esports players.

Initial findings also reveal a slight upward trend in HRV parameters.

Discussion/Conclusion: These potential cognitive and physical improvements could help explain the maintenance of in-game performance throughout the long competitive season, regardless of the game.

Significance: This pioneering work in the design of training programs tailored to professional esports players could help enhance esports performance, preserve players' health, and extend the length of their careers.

The development of esports-specific training programs could also enable a wide range of players from all backgrounds to benefit from these practices, potentially reducing barriers to success in esports.

This work thus anchors esports within a sustainable framework focused on health and inclusion.

Keywords: Professional esports players, Cognitive performance, Physical performance, High-Intensity Interval Training, Cognitive-motor Training.

References

- Bediou, B., Adams, D. M., Mayer, R. E., Tipton, E., Green, C. S., & Bavelier, D. (2018). Meta-analysis of action video game impact on perceptual, attentional, and cognitive skills. *Psychological Bulletin*, 144(1), 77–110. <https://doi.org/10.1037/bul0000130>
- McNulty, C., Jenny, S. E., Leis, O., Poulus, D., Sondergeld, P., & Nicholson, M. (2023). Physical Exercise and Performance in Esports Players: An Initial Systematic Review. *Journal of Electronic Gaming and Esports*, 1(1). <https://doi.org/10.1123/jege.2022-0014>
- Thillier, C., Besombes, N., Agbangla, N. F., & Vitiello, D. (2023). The Effects of Different Types of Training on Cognitive Performance in Professional Esports Players. *Journal of Electronic Gaming and Esports*, 1(1). <https://doi.org/10.1123/jege.2023-0022>

The Weakest Link, The Greatest Opportunity: How Coaching in Esports Redefines Learning, Leadership, and Human Development

Bret Chapman, Yorkville University

Introduction (Background/Context): Despite increasing investment in collegiate esports, program structures often mirror traditional athletic or commercial entertainment models, emphasizing brand visibility and performance metrics over educational purpose (Pizzo et al., 2019). These models rarely consider the identity development, psychological safety, and relational expectations of Gen Z and Alpha students, generations shaped by interactive technologies, socio-emotional precarity, and a preference for peer trust over hierarchical authority (Guo et al., 2024). Esports reveals a growing misalignment between institutional legitimacy and student formation. Within this tension, coaching emerges not as a marginal operational role but as a potential fulcrum for system-wide developmental change.

Purpose/Research Question (Objective): This study investigates how collegiate esports programs can be designed to prioritize psychological safety and identity development for digital-native students while maintaining competitive integrity and institutional credibility. It argues that coaching, when reframed through relational and adaptive leadership models, offers a key design space for ethical, sustainable learning ecosystems in esports.

Methods (Approach; Data Collection/Analysis): An integrative literature review (Torraco, 2005; Snyder, 2019) was conducted to synthesize disjointed research across educational leadership, sport sociology, care ethics, and youth development. Rather than seeking consensus, the review maps conceptual and structural gaps across fields to inform a generationally responsive model of coaching design. Sources were selected based on their relevance to feedback systems, leadership scaffolding, institutional coherence, and student well-being. The review also drew on adaptive systems theory (Heifetz, Linsky, & Grashow, 2025) and relational care frameworks (Noddings, 2013; Freire, 1998) to interpret findings through a pedagogical lens.

Results (Key Findings): Three core findings emerged:

1. **Design Misalignment:** Programs often replicate outdated high-performance models that overlook developmental supports, leading to student identity strain, emotional fatigue, and shallow feedback cultures (Leis et al., 2022; Lowrey, 2023).
2. **Leadership Fragmentation:** Coaching roles are typically undervalued or undefined in terms of ethical responsibility, mentorship, and relational care, resulting in inconsistent student experiences and missed developmental opportunities (Roth et al., 2023).

3. Institutional Incoherence: Programs designed around marketing or compliance fail to cohere around clear pedagogical intent, risking ethical blind spots and long-term instability (Dominteanu et al., 2023; Cranmer et al., 2021).

Discussion/Conclusion (Interpret Findings): The findings suggest that coaching is not a secondary concern but a primary site of structural and developmental intervention. When designed intentionally, coaching can bridge performance demands with psychological safety, enabling identity formation within competitive environments. This reframes coaching as a relational infrastructure that supports both student formation and institutional legitimacy. Programs that embed care, coherence, and feedback as system-level values—not incidental traits—are more likely to thrive in generationally diverse and digitally mediated contexts.

Significance (Practical Implications): This presentation represents phase one of a multi-stage research agenda. While this review focuses on institutional design and conceptual foundations, future work will develop applied frameworks for relational coaching and evaluate leadership development models within esports teams. Practitioners and administrators will benefit from evidence-informed strategies for aligning program credibility with student-centred design. Rather than mimicking traditional sports, collegiate esports can serve as a lab for adaptive, ethical, and generationally relevant educational leadership.

Keywords: Esports in Higher Education, Institutional Design, Relational Coaching, Psychological Safety, Generational Leadership

References

- Cranmer, E. E., Han, D.-I. D., van Gisbergen, M., & Jung, T. (2021). Esports matrix: Structuring the esports research agenda. *Information Technology & People*, 34(5), 1529–1550. <https://doi.org/10.1016/j.chb.2020.106671>
- Dominteanu, T., Miron, M., & Miron, D. (2023). The potential for exploitation in the esports industry: A critical legal perspective. *Journal of Gaming and Virtual Worlds*, 15(1), 45–61.
- Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Rowman & Littlefield.
- Guo, Z., Cahalane, M., & Carbonie, A. (2024). Online gaming with a purpose: Exploring identity, resilience, and reflection in Gen Z. *Journal of Youth and Media*, 12(1), 31–48.
- Heifetz, R. A., Linsky, M., & Grashow, A. (2025). *The practice of adaptive leadership: Tools and tactics for changing your organization and the world (2nd ed.)*. Harvard Business Review Press.

- Leis, O., Lautenbach, F., & Laborde, S. (2022). Stressors and coping strategies in esports: A qualitative analysis. *International Journal of Environmental Research and Public Health*, 19(3), 1251. <https://doi.org/10.1080/1750984X.2024.2386528>
- Lowrey, K. (2023). Duty of care in collegiate esports: Mental health, risk, and institutional responsibility. *Journal of Legal Issues in Sport*, 41(2), 119–135.
- Noddings, N. (2013). *Caring: A relational approach to ethics and moral education (2nd ed.)*. University of California Press.
- Pizzo, A. D., Jones, G. J., & Funk, D. C. (2019). Navigating the iron cage: Institutional creation and the development of collegiate esports. *International Journal of Sport Management*, 20(2), 171–197.
- Roth, D., Noetel, M., & Lonsdale, C. (2023). Coaching without a compass: Ethical tensions in esports leadership. *Journal of Applied Sport Psychology*, 35(1), 93–107.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356–367. <https://doi.org/10.1177/1534484305278283>

Strategic Communication in Glocalized eSports: Culture Syncretism and Diplomacy through a Blue Ocean Lens

Yupei Zhao and Qingwen Zhu, Zhejiang University; Yue Meng-Lewis, The Open University

Introduction: Esports has emerged as a global cultural phenomenon with significant political and diplomatic implications, boasting a viewership of 574 million in 2023 and projected growth to 641.1 million by 2025. International events like the 2023 Asian Games and 2024 Esports World Cup (EWC) have positioned esports as a platform for cultural exchange, commercial expansion, and geopolitical engagement, particularly amid the complexities of "glocalization"—the interplay of global and local dynamics. This context highlights the need to examine how esports stakeholders navigate commercial, cultural, and political objectives through strategic communication.

Purpose/Research Question: This study aims to analyze the communicative elements, stakeholder relationships, and power dynamics shaping international esports events, focusing on how cultural syncretism (cultural blending) and cultural diplomacy (strategic cultural exchange) operate within transcultural environments. It explores how stakeholders use strategic communication to balance global-local complexities, foster audience engagement, and achieve diplomatic or market-driven goals.

Methods: Adopting a qualitative approach, the research employs non-participatory observations and 30 expert interviews (with 5–15 years of industry experience) across three major tournaments: the 2023 Asian Games, 2024 Future Games, and 2024 EWC. Fieldwork spanned cities including Hangzhou, Riyadh, and Moscow. Data (over 300,000 words) were analyzed using thematic analysis, guided by the Blue Ocean Strategy's ERRC grid (Eliminate-Reduce-Raise-Create) to map strategic communication decisions.

Results: Key findings reveal that esports serves as a unique space where cultural syncretism and diplomacy converge. Stakeholders eliminate culturally sensitive content (e.g., modifying character designs to align with local norms), reduce barriers to accessibility (e.g., optimizing game mechanics for diverse markets), and create localized value (e.g., partnering with local broadcasters). For cultural diplomacy, efforts focus on reducing content bias (e.g., adapting terminology for broader acceptance) and raising national image (e.g., Saudi Arabia's investments in EWC to enhance global influence). These strategies bridge regional divides and drive economic and diplomatic engagement.

Discussion/Conclusion: The study identifies an iterative, reciprocal relationship between cultural syncretism and diplomacy in esports: syncretism enhances diplomatic effectiveness by ensuring cultural relevance, while diplomacy fosters further cultural blending. This dynamic is shaped by glocalization,

where hybrid cultural forms emerge to resonate both locally and globally. However, tensions exist, such as conflicts between state-driven narratives and fan subcultures, or geopolitical biases in event planning.

Significance: The research offers a value innovation model for governments and businesses, emphasizing strategic communication to balance global standards and local adaptation. It contributes to theories of transcultural communication by highlighting esports' role in soft power projection and cultural exchange, providing actionable insights for expanding market reach and fostering international cooperation.

Keywords: eSports, cultural syncretism, cultural diplomacy, glocalization, soft power

References

- ASO World. (2023, October). Global eSports Market Report (2023). <https://asoworld.com/blog/global-esports-market-report-2023/>
- Chalaby, J. K. (2025). Streaming giants and the global shift: Building value chains and remapping trade flows. *Journal of Communication*, 75(2), 112–124. <https://doi.org/10.1093/joc/jqae040>
- Clarke, D. (2020). Cultural diplomacy. In *Oxford Research Encyclopedia of International Studies*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190846626.013.543>
- Cummings, M. C. (2003). Cultural Diplomacy and the United States Government: A Survey. Center for Arts and Culture. <https://www.americansforthearts.org/by-program/reports-and-data/legislation-policy/naappd/cultural-diplomacy-and-the-united-states-government-a-survey>
- El Yaakoubi, A. (2023, October 23). Saudi Arabia launches Esports World Cup - Statement. *Reuters*. <https://www.reuters.com/sports/saudi-arabia-announces-esports-world-cup-statement-2023-10-23/>
- Hallahan, K., Holtzhausen, D., Van Ruler, B., Verčič, D., & Sriramesh, K. (2007). Defining strategic communication. *International Journal of Strategic Communication*, 1(1), 3–35.
- Kim, W. C., & Mauborgne, R. (2005). Blue Ocean Strategy: From Theory to Practice. *California Management Review*, 47(3), 105–121.
- Mihr, A. (2022). *Glocal Governance: How to Govern in the Anthropocene?* Springer International Publishing.
- Murray, S., Birt, J., & Blakemore, S. (2020). eSports diplomacy: Towards a sustainable 'gold rush.' *Sport in Society*, 25(8), 1419–1437. <https://doi.org/10.1080/17430437.2020.1826437>
- Newzoo. (2024). Newzoo's Global Games Market Report 2024. <https://newzoo.com/resources/trend-reports/newzoos-global-games-market-report-2024-free-version>

- Roudometof, V. (2016). *Glocalization: A Critical Introduction*. Routledge.
- Schwartz, S. B., & Salomon, F. (1999). New peoples and new kinds of people: Adaptation, readjustment, and ethnogenesis in South American indigenous societies (Colonial Era). In F. Salomon & S. B. Schwartz (Eds.), *The Cambridge History of the Native Peoples of the Americas: Volume 3: South America* (pp. 443–501). Cambridge University Press.
- Wong, D., & Meng-Lewis, Y. (2023). Esports diplomacy – China's soft power building in the digital era. *Managing Sport and Leisure*, 28(3), 247–269. <https://doi.org/10.1080/23750472.2022.2054853>
- Zerfass, A., Verčič, D., Nothhaft, H., & Werder, K. P. (2020). Strategic communication: Defining the field and its contribution to research and practice. In *Future directions of strategic communication* (pp. 159–177). Routledge.

The Dynamics of Player Identity and Community Formation in Competitive Esports Environments

Sandip P. Dhurat, SPD Innovative

Introduction (Background/Context): Esports is more than gameplay—it's a social phenomenon where identity, culture, and competition intersect. As global esports audiences surge and professional play becomes institutionalized, questions arise about how players understand themselves and build community in high-stakes, digitally mediated environments.

Purpose/Research Question (Objective): This study investigates how competitive esports players form and express their identities and how community dynamics within games and surrounding platforms (e.g., Discord, Twitch) influence this process. Specifically, it asks: How do players construct identity and community in competitive, team-based esports contexts?

Methods (Approach; Data Collection/Analysis): The research adopts a qualitative approach, combining digital ethnography with 20 semi-structured interviews of players from *League of Legends* and *Valorant*. Thematic analysis was used to interpret transcripts and field notes, focusing on patterns related to identity, belonging, and social structure.

Results (Key Findings): Findings reveal three major themes:

1. Performance-Based Identity: Players often define themselves through rank and role specialization.
2. Platform-Mediated Belonging: Communities form across games, Discord servers, and Twitch chats, reinforcing shared norms.
3. Tensions of Inclusion: While some players find strong social bonds, others experience exclusion or toxicity based on gender, skill level, or region.

Discussion/Conclusion (Interpret Findings): These results suggest that esports environments foster both empowering and alienating identity experiences. Competitive success grants status, but social capital is also shaped by performative presence on platforms outside the game itself.

Significance (Practical Implications): This research offers insights for developers, team managers, and platform designers aiming to cultivate inclusive, sustainable esports communities. Understanding identity formation in esports is crucial for improving player experience, reducing toxicity, and supporting diversity in digital competitive spaces.

Keywords: Esports identity, Community formation, Digital ethnography, Platform-mediated belonging.

References

- Cunningham, G. B., Fairley, S., Ferkins, L., Kerwin, S., Lock, D., Shaw, S., & Wicker, P. (2018). eSport: Construct specifications and implications for sport management. *Sport Management Review*, 21(1), 1–6. <https://doi.org/10.1016/j.smr.2017.07.001>
- Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on Twitch: Fostering participatory communities of play within live mixed media. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1315–1324. <https://doi.org/10.1145/2556288.2557048>
- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual(ly) athletes: Where eSports fit within the definition of "sport". *Quest*, 69(1), 1–18. <https://doi.org/10.1080/00336297.2016.1144517>
- Nebel, S., Ninaus, M., & Kiili, K. (2020). The magic of game-based learning: Engaging students with esports and gamification in education. *Computers in Human Behavior*, 110, 106402. <https://doi.org/10.1016/j.chb.2020.106402>
- Ruotsalainen, M., & Friman, U. (2018). Always already excluded: The digital marginalisation of women in competitive gaming. In M. Reunanen & J. Suominen (Eds.), *Game histories* (pp. 167–185). Tampere University Press. <https://urn.fi/URN:NBN:fi:uta-201809182147>
- Taylor, T. L. (2012). *Raising the stakes: E-sports and the professionalization of computer gaming*. MIT Press.
- Witkowski, E. (2012). On the digital playing field: How we "do sport" with networked computer games. *Games and Culture*, 7(5), 349–374. <https://doi.org/10.1177/1555412012454222>

Cultivating Success: Administrators' Perspectives on the Acquisition, Maintenance, and Growth of Collegiate Esports Sponsorships

Andrew J. Wilson, St. Mary's University; Vasil A. Arangelov, University of Oregon; Amanda C. Cote, Michigan State University; Maxwell Foxman, University of Oregon; Shane L Burrell, Jr., University of Oregon; Jeff Clements, University of Oregon

Introduction: Esports is booming, with industry stakeholders noting its potential as a lucrative economic enterprise through branding and marketing (McCauley & Baker, 2024; Pizzo & Hedlund, 2024; Scholz, 2020). Sponsor relationships between esports, game, and livestreaming companies, as well as non-endemic companies (those unrelated to gaming, such as car companies) are intimately linked to the growth and success of professional competitive gaming (Gawrysiak et al., 2020; Huetterman et al., 2023). However, less attention has been paid to how collegiate esports programs leverage sponsorships to advance esports' economic and cultural legitimacy on campus, distinctly from traditional sports (e.g., football and basketball). It is unclear how potential partnerships integrate with educational institutions' values or extant relationships. Our study investigates these subjects by directly asking program administrators to reflect on the role of sponsorships in collegiate esports' growth, recruitment and retention of players, and program sustainability and longevity.

Methods: This study employs Resource Dependency Theory (RDT) to examine how administrators navigate sponsor relationships for organizational growth (Pfeffer & Salancik, 2015). RDT views organizations as open systems dependent on external resources—such as human capital (expertise), investments, and stakeholder reputation—which are acquired and maintained by managers or administrators (Hillman et al., 2009). This theory thus directly addresses how/why program administrators might seek collegiate esports sponsorships (Fowles, 2014; Lipnicka & Verhoeven, 2020). We utilize RDT to address the following questions:

RQ1: How do administrators perceive securing sponsorships in relation to program growth and success?

RQ2: What types of sponsorships are common within the collegiate esports space, and what factors influence these relationships?

RQ3: How do institutional or organizational financial pressures shape decision-making around sponsorships in collegiate esports programs?

We address these questions via in-depth interviews with 16 administrators from diverse U.S. institutions (e.g., research universities, liberal arts colleges, and religiously-affiliated schools). In line with the expected audiences for games (Entertainment Software Association, 2024) and esports (Postell et al.,

2022), our administrators are predominantly young (mean 32, median 30, range 21-62), male (62.5%), straight (81.2%), and white (87.5%). Future work will need to recruit more diverse participants if seeking generalizable findings.

Interviews were conducted online, transcribed, and analyzed using inductive thematic analysis (Braun & Clarke, 2021). The research team used open coding with a shared codebook, and we collectively discussed code distribution and co-occurrence to generate broader themes, prioritizing participants' perspectives.

Results: Our ongoing analysis reveals administrators actively seek out sponsorships, often pitching business partnerships as vital to the funding and growth of their organizations. However, they also express concerns about alignment with institutional values and existing partnerships, emphasizing the challenge of finding appropriate sponsors and matching these to university brand identities. Common sponsors include endemic hardware and software companies (as in Huettermann et al., 2023), energy drink brands, and gaming companies. Relationships with associations like NACE and Playfly College Esports provide structural oversight vis-a-vis tournament organization. This indicates administrators view esports as both university brand extensions and vehicles for community engagement while managing complex economic and institutional relationships between sponsors and the administrators' home institutions. Viewed through RDT, these perspectives underscore the importance of resource acquisition (i.e., sponsorships) in fostering not only program growth, but also collegiate esports' cultural legitimacy (e.g., fan communities and alumni support) alongside well-established traditional sports.

Keywords: Collegiate esports, administrator perspectives, sponsorship, resource dependency theory, in-depth interviews

References

- Braun, V., & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. Sage Publications.
- Entertainment Software Association. (2024, May 16). 2024 essential facts about the U.S. video game industry. Data and Resources. <https://www.theesa.com/resources/essential-facts-about-the-us-video-game-industry/2024-data/>
- Fowles, J. (2014). Funding and focus: Resource dependence in public higher education. *Research in higher education*, 55, 272-287.
- Gawrysiak, J., Burton, R., Jenny, S., & Williams, D. (2020). Using esports efficiently to enhance and extend brand perceptions-A literature review. *Physical Culture and Sport, Studies and Research*, 86(1), 1–14. <https://doi.org/10.2478/pcssr-2020-0008>

- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- Huettermann, M., Trail, G. T., Pizzo, A. D., & Stallone, V. (2023). Esports sponsorship: An empirical examination of esports consumers' perceptions of non-endemic sponsors. *Journal of Global Sport Management*, 8(2), 524-549.
- Lipnicka, M., & Verhoeven, J. C. (2020). The application of new institutionalism and the resource dependence theory for studying changes in universities within Europe. *Roczniki Nauk Społecznych*, 42(4), 7-30.
- McCauley, B., & Baker, B. J. (2024). Esports branding and marketing. In *Routledge Handbook of Esports* (pp. 338-347). Routledge.
- Pfeffer, J., & Salancik, G. (2015). External control of organizations—Resource dependence perspective. In *Organizational Behavior 2* (pp. 355-370). Routledge.
- Pizzo, A. D., & Hedlund, D. P. (2024). Sponsorship in esports. In *Routledge Handbook of Esports* (pp. 348-357). Routledge.
- Postell, C., Narayan, K., Kennedy, C., & Glube, C. (2022). Trends in collegiate esports: 2022 report. <https://esportsfoundry.com/Trends-in-Collegiate-Esports.html>
- Scholz, T. M. (2020). Deciphering the world of esports. *International Journal on Media Management*, 22(1), 1-12.

Questioning and Situating the Sportification of Esports

Tom Brock, Manchester Metropolitan University; Mark R. Johnson, University of Sydney

Introduction: This abstract is based on a chapter within an accepted forthcoming book on "Esports" to be published with Polity Press in 2026. It argues that esports has undergone a profound historical shift, evolving from a niche subcultural activity, into a globally structured and commercially driven industry. This transformation - often described as the "sportification" of esports (Pargman and Svensson, 2019; Scholz et al. 2021) - has ignited ongoing debate amongst scholars, players, and industry stakeholders about whether competitive gaming is best understood as sport, entertainment, or a distinct hybrid form (Brock, 2023; Jenny et al. 2017; Parry, 2019). Whilst developments such as franchised leagues, major tournaments, and performance analytics bring esports increasingly online with traditional sports, they also raise pressing questions about authenticity, identity, and the preservation of community-driven values (Cestino et al. 2023). As such, this chapter argues that the emergence of esports is not simply a "new" development in digital play – indeed, its roots run deep – but, rather, signals a more profound rethinking of what sports means in contemporary society.

Purpose/RQ: The purpose of this chapter is to examine the ongoing and contested transformation of esports into a structure that mirrors traditional sports, analysing how this shift impacts legitimacy, player identity, and the cultural meaning of play. The objective is to critically assess how institutionalisation, commercialisation, and cultural pressures have reshaped the practice and perception of esports. Together, this chapter serves as the historical and conceptual foundation for a wider inquiry into the 'habitus' (Bourdieu, 1992) of esports players (in a subsequent chapter of the book).

Methods: The chapter adopts a qualitative, interdisciplinary approach, combining theoretical analysis with historical 'case studies' (Yin, 2018) across various game genres, including first-person shooters, real-time strategy, and emerging formats such as speedrunning. Secondary sources, including academic literature, esports journalism, and game industry reports are used to support the analysis. Key events, such as the rise of the League of Legends Championship Series, Starcraft ProLeague, and the World of Warcraft Arena World Championships, are also considered as cultural touchpoints. The framework incorporates theories of sportification (Guttman, Eichberg), digital labour (Taylor, Woodcock and Johnson), and platform capitalism (Jin, Partin).

Results: The chapter argues that the sportification of esports is not a linear or uniform process. Whilst traditional sports structures, like franchising, codified rules, and media integration are increasingly adopted, this evolution is met with tension and resistance. Key findings include:

- Esports athletes inhabit a hybrid role that demands not only competitive excellence but also the continuous performance of a curated media persona – revealing a deeper entanglement of affective labour, branding and digital visibility.
- The centralisation of power by game publishers, who simultaneously act as regulators, broadcasters, and economic gatekeepers.
- Persistent inequalities in gender, race, and labour conditions.
- A tension between community-driven efforts and an increasingly structured, data-driven, and sponsor-optimised format designed to maximise performance and commercial metrics.

Conclusion: The sportification of esports is thus best understood as a negotiated transformation - a convergence of modern sporting logic with digital capitalism and digital gaming. It reflects broader cultural tensions between grassroots values and institutional legitimacy, mirroring earlier histories of how various kinds of folk play became codified into sport(s). While this process has professionalised and legitimised esports, it has also commodified play, alienated communities, and replicated systemic inequities. Rather than fully assimilating into traditional sport, esports reshapes it, challenging what counts as athleticism, competition, and embodiment.

Significance: The chapter offers insights into how digital cultures intersect with commercialisation, institutionalisation and identity politics, urging esports researchers and educators to reconsider the future of play in an increasingly platform-driven world. Indeed, it informs debates about equitable access to competitive space, the governance of game-based competition and the labour conditions for digital athletes.

Keywords: Esports, Sportification, Case Studies, Sociology, Digital Athlete

References

- Bourdieu, P. (1992). *The logic of practice*. Polity Press.
- Brock, T. (2023). Ontology and interdisciplinary research in esports. *Sport, Ethics and Philosophy*, 19(1), 48–64. <https://doi.org/10.1080/17511321.2023.2260567>
- Cestino, J., Macey, J., & McCauley, B. (2023). Legitimizing the game: How gamers' personal experiences shape the emergence of grassroots collective action in esports. *Internet Research*, 33(7), 111–132.

- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2016). Virtual(ly) athletes: Where eSports fit within the definition of "sport." *Quest*, 69(1), 1–18.
<https://doi.org/10.1080/00336297.2016.1144517>
- Parry, J. (2019). E-sports are not sports. *Sport, Ethics and Philosophy*, 13(1), 3–18.
- Pargman, D., & Svensson, D. (2019). Play as work: On the sportification of computer games. *Digital Culture & Society*, 5(2), 15–40.
- Scholz, T., Völkel, L., & Uebach, C. (2021). Sportification of esports – A systematization of sport-teams entering the esports ecosystem. *International Journal of Esports*, 1(1).
<https://www.ijesports.org/ijesports/public/article/48/html>
- Yin, R. K. (2018). *Case study research and applications: Design and methods (6th ed.)*. Sage.

Understanding Emotional Regulation and Cognitive Fatigue in Collegiate Esports Athletes During Training: A Mixed-Methods Exploration

Elsa Brais-Dussault, Fédération québécoise de sport électronique

Introduction: Collegiate esports athletes must balance high academic demands with extensive training schedules. This dual commitment may contribute to cognitive overload and emotional dysregulation, increasing the risk of mental fatigue, attentional difficulties, and emotional instability. While there is extensive literature on the performance and well-being of traditional athletes, scientific data on esports players—especially in school settings—remains limited.

Purpose/Research Question: Funded by the Fédération québécoise de sports électroniques, this study aims to address this gap by examining the effects of training sessions on cognitive, emotional, and physiological markers among collegiate esports athletes. Specifically, the research investigates how gaming habits influence short-term attention, reactivity, and emotional state.

Methods: A mixed-methods approach was adopted to capture both subjective and objective variations in player states before and after gaming sessions. Data were collected from 20 players across 4 competitive League of Legends teams. The following instruments were used:

Self-report questionnaires: including measures of psychological states (POSM-A) and perceived fatigue and emotion using Visual Analogue Scales (VAS);

Psychometric tests: assessing attention and reaction time;

Biometric measures: including electroencephalography (EEG), facial electromyography (fEMG), electrodermal activity (EDA), and cardiac dynamics.

Data were collected at two time points: immediately before and after a standard training session.

Results: Preliminary findings reveal significant changes in attention span and reaction time between the first and second gaming periods. More specifically, a decrease in information processing speed and sustained attention was observed following the second session, suggesting a potential short-term cognitive load effect linked to gaming duration or intensity.

Discussion/Conclusion: These early results support the hypothesis that prolonged gaming sessions may lead to measurable cognitive fatigue, even among experienced players. The findings also underscore the need for better management of training rhythms, including structured rest periods, emotional regulation strategies, and psychoeducational support related to performance stress.

Significance: This research offers tangible insights for developing tailored intervention protocols to support the specific needs of esports athletes. By better understanding the neurophysiological and emotional impact of competitive training, educational institutions and esports organizations can create healthier, more sustainable environments for players. The results also aim to raise awareness among coaches, parents, and mental health professionals about the unique challenges faced by this student-athlete population.

Keywords: Esports athletes, cognitive fatigue, emotional regulation, psychophysiological measures, collegiate performance

References

- Allen, J. J., Coan, J. A., & Nazarian, M. (2004). Issues and assumptions on the road from raw signals to metrics of frontal EEG asymmetry in emotion. *Biological psychology*, 67(1-2), 183-218.
- Andre, T. L., Walsh, S. M., Valladao, S., & Cox, D. (2020). Physiological and perceptual response to a live collegiate esports tournament. *International Journal of Exercise Science*, 13(6), 1418.
- Basner, M., Mollicone, D., & Dinges, D. F. (2011). Validity and sensitivity of a brief psychomotor vigilance test (PVT-B) to total and partial sleep deprivation. *Acta astronautica*, 69(11-12), 949-959.
- Berga, D., Pereda, A., De Filippi, E., Nandi, A., Febrer, E., Coll, M. R., & Russo, L. J. (2023). Measuring arousal and stress physiology on Esports, a League of Legends case study. *arXiv preprint arXiv:2302.14269*.
- Boksem, M.A.; Meijman, T.F.; Lorist, M.M. Effects of mental fatigue on attention: An ERP study. *Brain Res. Cogn. Brain Res.* 2005, 25, 107–116.
- Hess, U. (2009). facial eMG. *Methods in social neuroscience*, 70-91.
- Kelley, N. J., Hortensius, R., Schutter, D. J., & Harmon-Jones, E. (2017). The relationship of approach/avoidance motivation and asymmetric frontal cortical activity: A review of studies manipulating frontal asymmetry. *International Journal of Psychophysiology*, 119, 19-30.
- Koshy, A., & Koshy, G. M. (2020). The potential of physiological monitoring technologies in esports. *International Journal of Esports*, 1(1).
- Kou, Y., & Gui, X. (2020). Emotion regulation in esports gaming: A qualitative study of league of legends. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW2), 1-25.

- Lin, C. T., Nascimben, M., King, J. T., & Wang, Y. K. (2018). Task-related EEG and HRV entropy factors under different real-world fatigue scenarios. *Neurocomputing*, 311, 24-31.
- Matsui, A., Sapienza, A., & Ferrara, E. (2020). Does streaming esports affect players' behavior and performance?. *Games and Culture*, 15(1), 9-31.
- Melentev, N., Somov, A., Burnaev, E., Strelnikova, I., Strelnikova, G., Melenteva, E., & Menshchikov, A. (2020, October). eSports players professional level and tiredness prediction using EEG and machine learning. In *2020 IEEE SENSORS* (pp. 1-4). IEEE.
- Moinnereau, M. A., Oliveira, A. A., & Falk, T. H. (2022). Instrumenting a virtual reality headset for at-home gamer experience monitoring and behavioural assessment. *Frontiers in Virtual Reality*, 3, 971054.
- Oostenveld, R., & Praamstra, P. (2001). The five percent electrode system for high-resolution EEG and ERP measurements. *Clinical neurophysiology*, 112(4), 713-719.
- Palanichamy, T., Sharma, M. K., Sahu, M., & Kanchana, D. M. (2020). Influence of Esports on stress: A systematic review. *Industrial Psychiatry Journal*, 29(2), 191.
- Simard, F., Aumont, T., Kizuk, S., & Fortin, P. (2022, November). Exploring the Benefits of Spatialized Multimodal Psychophysiological Insights for User Experience Research. In *Companion Publication of the 2022 International Conference on Multimodal Interaction* (pp. 113-120).
- Smith, M. R., Chai, R., Nguyen, H. T., Marcora, S. M., & Coutts, A. J. (2019). Comparing the effects of three cognitive tasks on indicators of mental fatigue. *The Journal of psychology*, 153(8), 759-783.
- Soler-Dominguez, J. L., & Gonzalez, C. (2021). Using EEG and gamified neurofeedback environments to improve esports performance: project neuroprotrainer,". In *Proceedings of the 16th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISIGRAPP 2021)* (Vol. 1, pp. 278-283).
- Sousa, A., Ahmad, S. L., Hassan, T., Yuen, K., Douris, P., Zwibel, H., & DiFrancisco-Donoghue, J. (2020). Physiological and cognitive functions following a discrete session of competitive esports gaming. *Frontiers in psychology*, 11, 1030.
- Terry, P. C., Lane, A. M., & Fogarty, G. J. (2003). Construct validity of the Profile of Mood States—Adolescents for use with adults. *Psychology of sport and exercise*, 4(2), 125-139.
- Thomas, C. J., Rothschild, J., Earnest, C. P., & Blaisdell, A. (2019). The effects of energy drink consumption on cognitive and physical performance in elite league of legends players. *Sports*, 7(9), 196.

- Tran, Y., Craig, A., Craig, R., Chai, R., & Nguyen, H. (2020). The influence of mental fatigue on brain activity: Evidence from a systematic review with meta-analyses. *Psychophysiology*, 57(5), e13554.
- Topoglu, Y., Watson, J., Curtin, A. B., DeFilippis, N. A., Zhang, J., Suri, R., & Ayaz, H. (2022). Exploring the Link Between Emotional Arousal and Player Skill in Video Gaming Using Electrodermal Activity. In 13th Conferences on Neuroergonomics and Cognitive Engineering (AHFE 2022).
- Van Gent, P., Farah, H., van Nes, N., & van Arem, B. (2019). Analysing noisy driver physiology real-time using off-the-shelf sensors: Heart rate analysis software from the taking the fast lane project. *Journal of Open Research Software*, 7(1), 1-9.
- Wang, C., Ding, M., & Kluger, B. M. (2014). Change in intraindividual variability over time as a key metric for defining performance-based cognitive fatigability. *Brain and cognition*, 85, 251-258.
- Wascher, E., Rasch, B., Sanger, J., Hoffmann, S., Schneider, D., Rinkenauer, G., ... & Gutberlet, I. (2014). Frontal theta activity reflects distinct aspects of mental fatigue. *Biological psychology*, 96, 57-65.
- Williamson, J. R., Heaton, K. J., Lammert, A., Finkelstein, K., Sturim, D., Smalt, C., ... & Quatieri, T. F. (2020, July). Audio, visual, and electrodermal arousal signals as predictors of mental fatigue following sustained cognitive work. In 2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC) (pp. 832-836). IEEE.

Introducing the Collegiate Esports Medical Support Model

Seth E. Jenny, Slippery Rock University of Pennsylvania; Michele Pye, Shenandoah University; Adam Antor, Ferris State University; Joanne DiFrancisco-Donoghue, New York Institute of Technology; David P. Schary, Winthrop University; Joey Gawrysiak, Syracuse University

Introduction: In North America (NA), the term "college" is commonly used interchangeably with "university" to describe an institution that provides education beyond the high school level. Thus, "collegiate esports" can be operationalized as esports participation by students enrolled in institutions of higher education (Jenny et al., in press). Since the COVID-19 pandemic in 2020, higher education institutions worldwide have experienced declining enrollment—often referred to as the "enrollment cliff"—driven by factors such as decreasing birth rates, increasing tuition costs, and growing concerns over student debt (Phillips & Jones, 2024).

Jenny et al. (2025) discovered that nearly two-thirds of college esports players are pursuing majors in STEM-related fields, with a strong concentration in computer science and various branches of engineering. Some higher education institutions have adopted esports programs as a means to enhance student recruitment and retention. Growing evidence suggests this approach may be effective, especially in fostering a sense of community and belonging among students, which in turn appears to support improved retention rates (Graff, 2025; Jenny et al., 2025).

Problem: Compared to traditional athletes, collegiate esports players face a unique set of physiological and psychological challenges. These include extended periods of sedentary activity, repetitive fine motor movements, disrupted sleep routines, and prolonged exposure to blue light. Additionally, the mental strain of balancing academic responsibilities, adapting to life away from home, and resisting unhealthy eating habits commonly found in dining halls can further impact their well-being. What's alarming is that while over half of collegiate esports players experience some type of esports-related medical issue, only 2% of players seek medical attention (DiFrancisco-Donoghue et al., 2019).

Scholars have highlighted the need for structured multidisciplinary support systems for esports players where medical support is shared across varying stakeholders with appropriate credentials, scope, and practice (Hong, 2022; McWhorter et al., 2025; Schary et al., 2022). Across varying levels of esports (i.e., amateur, semi-professional, and professional), a duty of care has been called upon due to the apparent lack of organizational health-related resource support, particularly regarding player mental and physical health concerns (Hong, 2025). Past proposed esports player health models include the "eSport Health Team

Model" (DiFrancisco-Donoghue et al., 2019), the "Integrated Health Management Model" (Mi et al., 2025), and the "Holistic Athletic Career Model" (Wylleman et al., 2013 as adapted by Hong, 2022). Yet, there are many unique characteristics found amongst, and resources afforded to, the collegiate esports population, but no medical model exists targeting collegiate esports players.

Purpose: This presentation outlines key medical considerations for collegiate esports players, provides context on the collegiate esports environment, and introduces the primary health, wellness, and medical support systems typically involved, culminating in proposing a "Collegiate Esports Medical Support Structures Model" (Jenny, 2025).

Significance and Practical Application: The presentation proposes the "Collegiate Esports Medical Support Structures Model" (Jenny, 2025), which encompasses the following real-world components: (1) esports player healthy lifestyle advocates and managerial support, (2) medical care support, (3) exercise and fitness resource support, (4) injury prevention and rehabilitation support, (5) pedagogical and accommodation support, (6) psychological support, (7) nutritional support, and (8) health and wellness promotion support. Each component will be explained with practical suggestions for anyone involved in collegiate esports.

Keywords: collegiate esports, university esports, scholastic esports, esports medicine, esports health, esports injuries, esports performance, Collegiate Esports Medical Support Structures Model

References

- DiFrancisco-Donoghue, J., Balentine, J., Schmidt, G., & Zwibel, H. (2019). Managing the health of the eSport athlete: An integrated health management model. *BMJ Open Sport & Exercise Medicine*, 5(1), 1-6. <https://doi.org/10.1136/bmjsem-2018-000467>
- Graff, J. K. (2025). Relationship Between Esports Participation and Student Enrollment and Retention in Higher Education (Doctoral dissertation, University of the Southwest). ProQuest.
- Hong, H. J. (2022). eSports: the need for a structured support system for players. *European Sport Management Quarterly*, 23(5), 1430-1453. <https://doi.org/10.1080/16184742.2022.2028876>
- Hong, H. J. (2025). Duty of care in esports: Ensuring mental well-being and physical health of esports players. *Journal of Electronic Gaming and Esports*, 3(1), 1-13. <https://doi.org/10.1123/jege.2024-0028>
- Jenny, S. E. (2025). Collegiate esports medical support structures. Research+. <https://www.sethjenny.com/research>

- Jenny, S. E., Pye, M., Antor, A., DiFrancisco-Donoghue, J., Schary, D. P., Gaige, C. J., & Gawrysiak, J. (in press). Medical considerations in collegiate esports (Chapter 10). In L. Migliore, C. McGee, & M. L. Moore (Eds.), *Handbook of Esports Medicine: Clinical Aspects of Competitive Video Gaming* (2nd ed.). Springer.
- Jenny, S. E., Schary, D. P., Bodony, J., & Hamer, R. (2025). Benefits of collegiate esports report. Voice of Intercollegiate Esports (VOICE). <https://www.voicecollegiate.org>
- McWhorter, R., Delello, J., & Carpenter, R. E. (2025). Technology-driven education: Insights from collegiate eSports. *International Journal on Integrating Technology in Education*, 14(1), 9-28.
- Mi, Y., Zhao, S., & Ju, F. (2025). An integrated health management model to improve the health of professional e-sports athletes: A literature review. *PeerJ*, 13, e19323. <https://doi.org/10.7717/peerj.19323>
- Phillips, C. H., & Jones, S. J. (2024). Strategic and tactical marketing strategies for regional public universities to address the enrollment cliff. *The Journal of Higher Education*, 1-25. <https://doi.org/10.1080/00221546.2024.2378640>
- Schary, D. P., Jenny, S. E., & Koshy, A. (2022). Leveling up esports health: Current status and call to action. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/70/html>

Analysis of Gaze Movement Changes in a Novice FPS Game Player Using a Low-cost Device and Software: A 10-day Observational Study

Inhyeok Jeong, Kochi University of Technology; Donghyun Kim, WEGO Company Co

Introduction: First-person shooter (FPS) games are one of the esports genres in which the players use gun-based weapons to fight enemies, and they require high cognitive function (e.g., attention skill) and excellent gaze control ability. In particular, the differences in gaze control abilities between the high- and low-skilled players of FPS games have been explored, but it is unclear how the gaze control abilities of low-skilled FPS game players are changed with practice. Furthermore, Multiplayer Online Battle Arena (MOBA) game players showed different gaze movement depending on the game situations (Jeong et al., 2024), but it is unexplored whether FPS games also show different gaze movements depending on the game situation.

Purpose/Research Question: Therefore, the current study investigated how novice FPS gamers' gaze movements changed depending on game situations during a 10-day practice period by using a low-cost device and software.

Methods: We used a self-designed gaze analysis tool and eye tracker (Tobii 5) to investigate how gaze control abilities change in novice FPS game players over ten days of practice. One male participant who had no experience playing FPS games was recruited and asked to play a deathmatch of Valorant three times a day for ten days. After playing the deathmatch of Valorant, we categorized the game situations into two categories (Fighting scene and Moving scene) by using the self-designed software, and analyzed the gaze movement according to the game scene. The changes per day of gaze distribution, region of interest (ROI), and kill/death/assist (KDA) score were investigated. The gaze distributions were analyzed by diving into the fighting scene and the moving scene.

Results: As a result of the ten-day practice, the KDA score increased significantly ($z = 2.14$, $p = .03$), with an increase in the ROI ratio of the center area ($z = 2.14$, $p = .03$) and a decrease in the ROI ratio of the other area ($z = -2.14$, $p = .03$). Furthermore, vertical gaze distribution in the fighting scene showed a significant decreasing trend during the practice ($z = -3.57$, $p < .001$). However, there was no significant correlation between KDA score and any other gaze parameters.

Discussion/Conclusion: These results were consistent with previous research (Jeong et al., 2024) that a narrower gaze distribution is advantageous in situations that require focusing on the center part of the monitor (fighting scene in this study), and indicate that gaze movement can be improved/changed with practice. In addition, because a narrow gaze distribution is known to reflect high attention skills (Dahl et

al., 2021; Klostermann et al., 2020), the change in gaze movement might indicate that the novice's attention skills improved through FPS game experience. In the future, it is necessary to validate the consistency of the data and the usability of the developed tool with multiple participants.

Practical implement: In this study, we not only investigated gaze movements but also divided the game scene automatically by using low-cost devices and software. In the future, esports athletes might be able to constantly check their gaze movements according to the game scene through our system and use this information for training and analysis.

Keywords: First-person shooter game, gaze movement, attention skill, gaze analyzing tools, novice player

References

- Jeong, I., Kim, D., Kaneko, N., & Nakazawa, K. (2024). Gaze control ability of League of Legends players in various game situations: Perspectives from solo-ranked match. In GamiFIN (pp. 1-9).
- Dahl, M., Tryding, M., Heckler, A., & Nyström, M. (2021). Quiet Eye and Computerized Precision Tasks in First-Person Shooter Perspective Esport Games. *Frontiers in Psychology*, 12(November), 1–10. <https://doi.org/10.3389/fpsyg.2021.676591>
- Klostermann, A., Vater, C., Kredel, R., & Hossner, E.-J. (2020). Perception and Action in Sports. On the Functionality of Foveal and Peripheral Vision. *Frontiers in Sports and Active Living*, 1(January), 1–5. <https://doi.org/10.3389/fspor.2019.00066>

Health Characteristics and Habits of Norwegian Esports Athletes: A Prospective Cohort Study in the Good Game League Division 1–4

André Baumann, Gamers Performance / University of Bergen / Bredde-e-sport Alliansen (Grassroots Esports Alliance)

Introduction: Although esports athletes may benefit from healthy routines related to diet, sleep, and physical activity, multiple studies suggest that participation in esports is associated with suboptimal health habits. These concerns are partly due to the sedentary nature of esports (DiFrancisco-Donoghue et al., 2020). There is currently limited knowledge about the health of Norwegian esports athletes, but previous findings indicate that Norwegian esports students often skip breakfast, consume energy drinks, and use blue light-emitting devices before sleep (Baumann et al., 2022). Athletes are reported to sit for 5–10 hours daily during the pre-competition phase, often resulting in pain or fatigue in the back, neck, wrists, and eyes (DiFrancisco-Donoghue et al., 2019). Prolonged sedentary behavior (exceeding 6–8 hours per day) has been linked to increased all-cause mortality (Patterson et al., 2018). Additionally, low intake of fruit and vegetables—common among esports athletes—has been associated with higher risk of cancer, cardiovascular disease, and mortality (Rudolf et al., 2020; Aune et al., 2017). These health-related challenges may ultimately threaten the social sustainability of esports by impacting athlete well-being (Nyström, 2022).

Purpose: This prospective cohort study aims to examine:

- What lifestyle habits national-level esports athletes have
- To what degree esports level is associated with health and health habits
- To what extent esports athletes meet national and international guidelines for sleep, diet, and physical activity
- How health and lifestyle habits change over a year of national competition

Methods: Approximately 2000 athletes from six games (PUBG, Rocket League, CS2, Valorant, and League of Legends) in the national Good Game League Division 1–4 will be recruited via Gamer.no, Goodgameligaen.no, and through Instagram, LinkedIn, and Facebook during 2025. Final data collection is scheduled for fall 2026. The study design is prospective, following athletes over the competitive seasons 2025/2026.

Data from the first time point (T1) will be analyzed using descriptive statistics (means and standard deviations) across divisions 1–4. To assess differences between divisions, linear regression analyses will be performed, controlling for age and gender, with esports division coded as a dummy variable (division

4 as reference). To assess changes from T1 to T2, regression models will include the T2 outcome as the dependent variable, with predictors including T1 scores, gender, age, personality, and esports division. A power analysis using G*Power 3.1.9.2 determined that a minimum of 395 respondents is needed to detect a small effect size ($f^2 = .02$) with an alpha level of .05 and statistical power of .80.

Results: Data collection is ongoing. Results will be available following completion of the study in fall 2026.

Discussion/Conclusion: As this is a prospective study currently in progress, discussion and conclusions will be presented once data analysis is completed.

Significance: By generating new knowledge about the health behaviors and challenges of national-level esports athletes in Norway, this study aims to inform targeted interventions for health promotion in the esports community. The findings may also support the long-term sustainability of esports by contributing to improved athlete well-being.

Keywords: esports athletes, health habits, physical activity, prospective cohort study, sleep and nutrition

References

- Aune D, Giovannucci E, Boffetta P et al. (2017) Fruit and vegetable intake and the risk of cardiovascular disease, total cancer and all-cause mortality-a systematic review and dose-response meta-analysis of prospective studies. *Int J Epidemiol* 46, 1029-1056.
- Baumann, A., Mentzoni, R. A., Erevik, E., & Pallesen, S. (2022). A qualitative study on Norwegian esports students' sleep, nutritional and physical activity habits and the link to health and performance. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/88/html>
- DiFrancisco-Donoghue J, Balentine J, Schmidt G et al. (2019) Managing the health of the eSport athlete: an integrated health management model. *BMJ Open Sport Exerc Med* 5, e000467.
- DiFrancisco-Donoghue J, Werner, W.G., Douris, P.C. & Zwibel, H. (2020) Esports players, got muscle? Competitive video game players' physical activity, body fat, bone mineral content, and muscle mass in comparison to matched controls. *Journal of Sport and Health Science*, 1-6.
- Nyström, A-G., McCauley, B., Macey, J., Scholz, T.M., Besombes, N., Cestino, J., Hiltcher, J., Orme, S., Rumble, R. & Törhönen, M. (2022). Current issues of sustainability in esports. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/94/html>

- Patterson R, McNamara E, Tainio M et al. (2018) Sedentary behaviour and risk of all-cause, cardiovascular and cancer mortality, and incident type 2 diabetes: a systematic review and dose response meta-analysis. *Eur J Epidemiol* 33, 811-829.
- Rudolf K, Bickmann P, Frobose I et al. (2020) Demographics and Health Behavior of Video Game and eSports Players in Germany: The eSports Study 2019. *Int J Environ Res Public Health* 17.

Evolution of the Lex Olympica and the Emergence of Esports Regulation

Leonid Shmatenko, 5Gambit Disputes / Heinrich Heine University Düsseldorf; Anastasiia Dulcka, Bär & Karrer / Columbia Law School

Introduction: The Lex Olympica, the legal and ethical framework governing the Olympic Games, has undergone significant transformations since its inception in 1894 (Panagiotopoulos, 2012). Originally established to uphold ideals of amateurism and fair play, this evolving body of regulations has continuously adapted to address the complexities and challenges of modern sports (Schultz, 2006). As the Olympics have grown into a global spectacle, the Lex Olympica has expanded to incorporate issues such as doping (Van Vaerenbergh, 2005), gender equality (Patel, 2021), and athlete rights, reflecting broader societal changes and technological advancements.

Early iterations of the Lex Olympica were primarily focused on maintaining amateurism and excluding professional athletes. However, the definition of amateurism proved contentious and often discriminatory, leading to a gradual relaxation of these rules (Crowther, 2004). By the late 20th century, the inclusion of professional athletes in the Olympics marked a significant shift, acknowledging the changing nature of sports participation and viewership. This period also saw the introduction of rigorous anti-doping regulations aimed at preserving competition integrity, exemplified by the establishment of the World Anti-Doping Agency (WADA) in 1999 (Van Vaerenbergh, 2005).

Gender equality has been another critical area of evolution within the Lex Olympica. Initially, women's participation in the Olympics was severely limited, but persistent advocacy and societal progress have led to greater inclusion and parity (Patel, 2021). Additionally, the Lex Olympica has increasingly recognized athletes' rights and welfare, emphasizing mental health, fair compensation, and protection from abuse.

Purpose/Research Question: The newest frontier in the evolution of the Lex Olympica is the integration of esports, a rapidly growing domain of competitive gaming (Migliore, 2021). This article examines how the Lex Olympica must adapt to accommodate esports within the Olympic framework, addressing the question: What legal and regulatory adaptations are necessary for the Lex Olympica to effectively govern esports as the International Olympic Committee (IOC) explores their integration into the Olympic program?

Methods: This article employs a doctrinal legal analysis approach, examining the historical evolution of the Lex Olympica through review of scholarly literature, IOC policy documents, and sports law scholarship. The analysis synthesizes existing research on Olympic governance (Panagiotopoulos, 2012;

Schultz, 2006), anti-doping regulation (Van Vaerenbergh, 2005), gender equality in sports (Patel, 2021), and emerging esports scholarship (Migliore, 2021; Bubna et al., 2023; Shmatenko, 2021) to identify key regulatory challenges and opportunities. The methodology involves comparative analysis of traditional sports governance frameworks and esports-specific regulatory considerations to propose adaptations to the Lex Olympica.

Results: The analysis reveals that the Lex Olympica has demonstrated remarkable adaptability throughout its history. Key transformations include the shift from strict amateurism to professional inclusion, the establishment of comprehensive anti-doping frameworks, and progressive advances in gender equality. These changes reflect the framework's capacity to evolve in response to societal changes and emerging challenges (Crowther, 2004).

Esports has seen exponential growth in popularity and financial investment, attracting a global audience comparable to traditional sports (Migliore, 2021). The International Olympic Committee has acknowledged this phenomenon, with the IOC Executive Board proposing the creation of "Olympic Esports Games" in 2024 (International Olympic Committee, 2024). This integration poses unique challenges and opportunities, necessitating adaptations of the existing framework of the Lex Olympica to esports.

The inclusion of esports requires a re-evaluation of fundamental principles such as the definition of an athlete (Bubna et al., 2023), the nature of physical exertion, and the criteria for fair play. Esports competitions are governed by distinct rules and rely heavily on technology, raising questions about cheating, digital doping, and intellectual property rights (Shmatenko, 2021). Additionally, the global and decentralized nature of esports communities presents regulatory challenges that differ from traditional sports.

Discussion/Conclusion: The IOC's approach to integrating esports will shape the future of the Lex Olympica, ensuring its relevance in an era of digital transformation. The findings suggest that while the Lex Olympica has successfully adapted to numerous challenges throughout Olympic history, esports presents a fundamentally different regulatory paradigm. Unlike previous adaptations that modified existing principles, esports integration requires the development of new conceptual frameworks that account for digital competition, technology-mediated performance, and virtual environments.

The successful integration of esports into the Olympic framework will depend on the IOC's ability to balance traditional Olympic values with the unique characteristics of digital competition. This includes developing clear definitions of esports athletes, establishing fair play standards for digital competition,

addressing intellectual property considerations related to game publishers, and creating governance structures that accommodate the global and decentralized nature of esports communities.

Significance: This analysis contributes to the development of a robust and inclusive governance structure that reflects the diverse and dynamic nature of modern sports. The practical implications include:

1. **Policy Development:** Providing a framework for IOC policymakers to guide esports integration while maintaining Olympic integrity and values.
2. **Legal Clarity:** Identifying key legal and regulatory gaps that must be addressed to ensure effective governance of esports within the Olympic context.
3. **Stakeholder Engagement:** Highlighting the need for collaboration among traditional sports governing bodies, esports organizations, game publishers, and athletes to develop appropriate regulatory mechanisms.
4. **Future Research:** Establishing a foundation for further scholarly inquiry into esports regulation, digital sports governance, and the continued evolution of the Lex Olympica in the digital age.

Our examination of the multifaceted evolution of the Lex Olympica and the emerging paradigm of esports provides essential insights for legal scholars, sports administrators, and policymakers in the intersection of traditional sports governance and digital competition.

Keywords: lex olympica, esports regulation, inclusion, IOC, governance

References

- Bubna, K., Trotter, M. G., Polman, R., & Poulus, D. R. (2023). Terminology matters: Defining the esports athlete. *Frontiers in Sports and Active Living*, 5, Article 1232028. <https://doi.org/10.3389/fspor.2023.1232028>
- Crowther, N. (2004). The state of the modern Olympics: Citius, altius, fortius? *European Review*, 12(3), 445-460. <https://doi.org/10.1017/S1062798704000377>
- International Olympic Committee. (2024, June 14). IOC EB proposes creation of "Olympic Esports Games" to IOC Session. <https://olympics.com/ioc/news/ioc-eb-proposes-creation-of-olympic-esports-games-to-ioc-session>
- Migliore, L. (2021). What is esports? The past, present, and future of competitive gaming. In L. Migliore, C. McGee, & M. N. Moore (Eds.), *Handbook of esports medicine* (pp. 1-14). Springer. https://doi.org/10.1007/978-3-030-73610-1_1

- Panagiotopoulos, D. P. (2012). Lex Olympica: From the inter-state Ancient Greek law to the rules of participation in the Modern Olympic Games. *The International Sports Law Journal*, (1-2), 63.
- Patel, S. (2021). Gaps in the protection of athletes gender rights in sport—A regulatory riddle. *The International Sports Law Journal*, 21, 257-275. <https://doi.org/10.1007/s40318-021-00182-2>
- Schultz, T. (2006, April 20). The lex sportiva turns up at the Turin Olympics: Supremacy of non-state law and strange loops. *JusLetter*. <https://ssrn.com/abstract=896673>
- Shmatenko, L. (2021). eSports – 'It's in the game': The naissance of a new field of international arbitration. In C. González-Bueno (Ed.), *40 under 40 international arbitration 2021* (pp. 393-410). <https://ssrn.com/abstract=3836741>
- Van Vaerenbergh, A. (2005). Regulatory features and administrative law dimensions of the Olympic Movement's anti-doping regime (IILJ Working Paper No. 2005/11). <https://ssrn.com/abstract=871736>

IPK Esports® Methodology for Performance and Health Optimization in Professional Valorant Teams

Juan Carlos Anadrade, IPK Esports Academy

Background: The exponential growth of esports has created new challenges in optimizing health, performance, and injury prevention among professional players. This study introduces the application of the IPK Esports® methodology within Ramboot Club, a professional Valorant team competing in the 2024 Spain Rising Challengers League – Split 1.

Objective: To explore the correlation between self-reported wellness data (IPK questionnaire) and official in-game performance statistics, and to evaluate the impact of weekly neurofunctional and physiotherapy-based interventions.

Methods: Five professional players completed a weekly 5-item IPK wellness questionnaire assessing sleep quality, post-training recovery, emotional state, musculoskeletal pain, and perceived energy. Red alerts (scores ≤ 2) and orange alerts (three consecutive 3s) triggered same-day consultations and interventions including neurostretching, percussive massage, corrective exercise plans, and thermal therapy. Official game metrics (K/D, ACS, ADR, KAST) were cross-analyzed with the IPK scores.

Results: Players with average IPK scores >4 (e.g., RBT Player 2, RBT Player 4) consistently showed better tactical and combat performance. In contrast, emotional distress and physical pain were associated with statistical decline. The team's 10-match win streak aligned with peak wellness stability and a total absence of red alerts. Strong positive correlations were identified between sleep/recovery and performance; negative correlations were observed for pain/emotional decline vs. KAST and ADR.

Conclusion: The IPK Esports® model presents a clinically viable tool for optimizing competitive performance and early detection of health risks. Regular subjective wellness tracking, combined with immediate intervention protocols, enhances both resilience and performance in professional esports athletes.

Keywords: Esports, physiotherapy, player health, IPK method, performance metrics, Valorant

References

DiFrancisco-Donoghue, J., Werner, W. G., Rinehardt, K., Douris, P. C., & Zwibel, H. (2019). Exploring the physiological and cognitive effects of esports gameplay. *BMJ Open Sport & Exercise Medicine*, 5(1), e000467. <https://doi.org/10.1136/bmjsem-2018-000467>

- DiFrancisco-Donoghue, J., Jenny, S. E., Douris, P. C., Ahmad, S., Yuen, K., & Hassan, T. (2021). Breaking up prolonged sitting with a 6-min walk improves executive function in esports players: A randomized trial. *BMJ Open Sport & Exercise Medicine*, 7(1), e001118. <https://doi.org/10.1136/bmjsem-2021-001118>
- DiFrancisco-Donoghue, J., Balentine, J., Schmidt, G., & Zwibel, H. (2019). Managing the health of the eSport athlete: An integrated health management model. *BMJ Open Sport & Exercise Medicine*, 5(1), e000467. <https://doi.org/10.1136/bmjsem-2018-000467>
- Zwibel, H., DiFrancisco-Donoghue, J., DeFeo, A., & Yuen, K. (2019). An osteopathic physician's approach to the esports athlete. *The Journal of the American Osteopathic Association*, 119(11), 756–765. <https://doi.org/10.7556/jaoa.2019.126>
- Pedraza-Ramirez, I., Musculus, L., Raab, M., & Laborde, S. (2020). Setting the scientific stage for esports psychology: A systematic review. *International Review of Sport and Exercise Psychology*, 13(1), 319–352. <https://doi.org/10.1080/1750984X.2019.1689574>
- Bunn, J. A., Ryan, H., Button, C., & Hall, C. J. (2020). The impact of physical activity on cognitive performance in competitive gamers. *Frontiers in Psychology*, 11, 1036. <https://doi.org/10.3389/fpsyg.2020.01036>
- Trotter, M. G., Coulter, T. J., Davis, P. A., Poulus, D. R., & Polman, R. C. J. (2020). The association between esports participation, health and physical activity behaviour. *International Journal of Environmental Research and Public Health*, 17(19), 7329. <https://doi.org/10.3390/ijerph17197329>
- Leis, O., Lautenbach, F., & Laborde, S. (2022). Self-regulation in esports: Professional players' perspectives and routines. *International Journal of Environmental Research and Public Health*, 19(10), 5827. <https://doi.org/10.3390/ijerph19105827>
- Rudolf, K., Bickmann, P., Froböse, I., & Tholl, C. (2020). Demographics and health behavior of video game and esports players in Germany: The Esport Monitor. *International Journal of Environmental Research and Public Health*, 17(6), 1870. <https://doi.org/10.3390/ijerph17061870>

Predicting Performance Decline with Heart Rate Variability in College-Age Valorant Players

Nathan Rhea, Robert Calvert, Jason Tran, and Iona Pascual, University of the Pacific

Introduction: Both casual and competitive esports players are familiar with the impact tilt can have on their performance. Tilt has been described as an emotion of moral indignation that results in faulty decision-making and poor gameplay (McLinton & Pascale, 2024). Unlike anger and general frustration, tilt often compels players to keep playing and make mistakes despite their negative feelings (Bonilla et al., 2024). This can be detrimental to both individual and team performance, and in games like Valorant, where maintaining composure and quality decision-making are important to performance, identifying and managing tilt is crucial to success. Heart rate variability is often used as a biometric indicator of stress regulation, but there have been limited studies in the esports space (Welsh et al., 2023). HRV is an accessible variable for assessing the psychophysiological state of the player, given the variability in how players emote when tilted. If repetitive poor gameplay decisions have been described as a common symptom of tilt, HRV could be used as a tool for monitoring and predicting performance decline caused by tilt.

Purpose/Objective: This study aims to explore how effectively heart rate variability predicts declines in gameplay performance for casual and competitive college-age Valorant players.

Methods: N=17 college-age players of various skill levels played one competitive Valorant game while wearing a Polar H-10 heart rate chest monitor. To account for the nuance in analyzing gameplay and decision-making within each round, each game was recorded and analyzed by a panel of 2 experienced Valorant players. Panel members anonymously evaluated each participant's game sense, utility usage, and riskiness for each round of gameplay based on criteria established during a focus group between the head researcher and panel members. Time stamps were created for each round, which the head researcher then used to extract the corresponding HRV data using Kubios Scientific. Autoregressive models will be used to test whether HRV and gameplay data from previous rounds can predict poor gameplay based on the criteria established by the research team.

Implications: Preliminary findings from this study could pave the way for continued research into the use of biometric indices for monitoring esports stress regulation and tilt-related game outcomes. Effective mechanisms for tracking player emotional regulation and potential interventions could contribute to continued performance improvement, especially in games like Valorant, where walking away mid-game when frustrated isn't an option.

Keywords: Heart Rate Variability, Performance, Tilt, Psychophysiology, Stress

References

- Bonilla, I., Chamarro, A., Birch, P., Sharpe, B., Martín-Castellanos, A., et al. (2024). Conceptualization and validation of the TILT questionnaire: relationship with IGD and life satisfaction. *Frontiers in Psychology*, 15, 1-10. <https://doi.org/10.3389/fpsyg.2024.1409368>
- McClinton, S., & Pascale, S. (2024). Tilt in esports: Understanding the phenomenon in new digital contexts. *Computers in Human Behavior Reports*, 14, 1-14. <https://doi.org/10.1016/j.chbr.2024.100425>
- Welsh, M. R., Mosley, E., Laborde, S., Day, M. C., Sharpe, B. T., Burkill, R. A., & Birch, P. D. J. (2023). The use of heart rate variability in esports: A systematic review. *Psychology of Sport and Exercise*, 69(102495). <https://doi.org/10.1016/j.psychsport.2023.102495>

Educational Leadership for Student Captains

Michael Cassens, University of Montana

Introduction: In the fall of 2024, the University of Montana experienced a significant surge in competitive players, resulting in a need for more student leadership. Like many collegiate varsity programs, human resources are at a premium, and with large teams, there is a need for increased student leadership.

At the time, Grizzly Esports implemented a Head Captain and Captain structure within each of the competing titles. This leadership structure worked well, but some deficiencies quickly became clear, particularly in terms of effective leadership.

Students felt unprepared to take on this responsibility as peers, and they thought they lacked the skills to be successful in working through traditional problematic areas, such as conflict resolution when a player is tilted, the potentiality of cheating, or even a lack of respect. This lack of confidence led to situations where student leaders felt underappreciated, burned out, and could no longer continue in their role, and sometimes even left the team altogether.

Purpose/Research Question: A formalized educational experience during the spring 2025 semester, designed to elevate student leadership skills through a combination of community, communication, and technology, was taught. The primary question was whether this would better equip student leaders so they could feel confident in their leadership roles regardless of the situation.

Methods: The course met weekly for 16 weeks, discussing various topics from understanding personality types and leadership styles to practicing communicating with one another in person and online. Finally, a custom GPT was introduced as a tool to help practice and work through difficult situations, trained on peer-reviewed data sources. After the semester was over, students reflected on their experience, discussed what they had gained throughout the semester, and articulated what type of leader they were and how that could benefit them personally and their teammates.

Results: Most students found the course enlightening to varying degrees, depending on their experience and age. Some who had been captains confirmed some of their prior approaches. Others who were new leaders or potential leaders found that they could lead in a way that was authentic to them. Most of them found that the technology piece was an augmentation, but not something they would solely rely on for having difficult conversations. They wanted to experiment by leaning into who they were and using the language learned from class.

Discussion/Conclusion: This class taught everyone that they all have a voice. It showed that regardless of who they are, they can all be leaders. They also found that these skills transcend beyond esports and apply to many areas within their lives. In an intimate setting like this class, the students felt much more comfortable interacting with one another. It is unlikely to be successful at scale.

Significance: Most esports teams consist of students from diverse backgrounds. Most programs also scale quite quickly if they accept all players regardless of ability. As such, these programs will rely on student leadership for communication, administration, and success. These educational opportunities must exist so that students can be confident leaders within an esports program and take these skills into the workforce regardless of their area of interest.

Keywords: leadership, students, education, communication, captains

References

- Falconer, Daniel. (2018). Jaime Bickford aka Karma discusses being the captain of esports team Splyce and women in gaming. Female First. <https://www.femalefirst.co.uk/games/splyce-team-captain-jaime-bickford-karma-exclusive-interview-insomnia-gaming-festival-1160316.html>
- Kresina, Kenneth Thomas. (2024). An Exploration of Team Cohesion in Collegiate Esports Contexts An Exploration of Team Cohesion in Collegiate Esports Contexts. ISU ReD: Research and eData. <https://ir.library.illinoisstate.edu/cgi/viewcontent.cgi?article=2924&context=etd>
- McWhorter, Rochell & Delello, Julie & Carpenter, Rob E. (2025). Technology-Driven Education: Insights from Collegiate Esports. International Journal on Integrating Technology in Education. https://scholarworks.utt Tyler.edu/cgi/viewcontent.cgi?article=1061&context=hrd_fac

From Keyboard to Scalpel: A Systematic Review on the Role of Esports in Surgical Skill and Cognitive Training

Muhammad Ali Qureshi, University of Alberta; Ahmed Al-Amery, Alex Huynh, Abdalmuhaymen Ibrahim, and Hirday Josan, McMaster University

Introduction: Video game play has been shown to positively influence psychomotor and visuospatial abilities, skills that are essential for surgery, particularly laparoscopic procedures (Rosser et al., 2007). Among the broad range of video games out there, competitive PC-based esports stand out due to their fast-paced keyboard and mouse mechanics, which closely mirror the cognitive and motor demands of surgical tasks. Notably, game genres such as first-person shooters (FPS) and real-time strategy (RTS) games have been linked to faster reaction times, improved visuospatial coordination, and enhanced decision-making under pressure (Datta et al., 2020). These shared performance demands suggest a compelling possibility: that esports engagement may help foster transferable skills relevant to surgical proficiency.

Purpose/Research Question: We aimed to systematically evaluate the relationship between competitive PC esports gaming and surgical skill development or cognitive performance in surgeons, residents, and trainees. We hypothesize that esports participation is positively associated with outcomes relevant to operative performance, including dexterity, speed, accuracy, visuospatial ability, and decision-making.

Methods: This is an ongoing systematic review that is being conducted in accordance with PRISMA 2020 guidelines. A comprehensive search strategy was developed and applied to six databases: MEDLINE, Embase, CINAHL, PsycINFO, Web of Science, and Scopus. We included studies of any design that evaluated participants with surgical experience and measured outcomes in surgical performance or related cognitive skills, comparing individuals with esports exposure to non-gamers or alternative groups. Title and abstract screening was conducted independently and in duplicate by pairs of reviewers, with 205 studies identified as potentially eligible for full-text review. Risk of bias will be assessed using RoB 2.0 and ROBINS-I tools. A qualitative synthesis will be conducted, and meta-analysis will be performed if appropriate. This review was registered prospectively on PROSPERO (CRD420251102490).

Results: We have completed title and abstract screening, identifying 205 studies for full-text review. Initial observations suggest many studies report enhanced task performance among gamers on laparoscopic simulators or related platforms (Dimov et al., 2021).

Discussion/Conclusion: While research on video game play and surgical performance is growing, the specific role of esports, particularly PC-based competitive games involving keyboard and mouse

mechanics, remains underexplored. By focusing on esports, this review aims to clarify how intensity, platform, and game genre influence the translation of gaming skills into surgical domains. While early findings suggest potential benefits, inconsistencies in study design and methodology must be carefully addressed to produce generalizable results. This systematic review would fill an integral gap in understanding how competitive PC esports might support surgical skill.

Significance: Our findings may inform future efforts to integrate esports-based training and game-based learning into surgical education. If adequately supported by the findings, esports could offer an accessible, low-cost method to cultivate transferable cognitive and motor skills among medical trainees and professionals. These potential benefits, while still under investigation, may have implications for enhancing patient outcomes globally. A full paper manuscript of this study is intended for journal submission upon completion.

Keywords: Esports, competitive gaming, PC gaming, surgical skills, cognitive training

References

- Datta, R., Chon, S.-H., Dratsch, T., Timmermann, F., Müller, L., Plum, P. S., Haneder, S., Pinto dos Santos, D., Späth, M. R., Wahba, R., Bruns, C. J., & Kleinert, R. (2020). Are gamers better laparoscopic surgeons? Impact of gaming skills on laparoscopic performance in "Generation Y" students. *PLOS ONE*, 15(8), e0232341. <https://doi.org/10.1371/journal.pone.0232341>
- Dimov, P., Hurtig, J., Georgiou, K., Theodorou, D., Marinov, B., & Enochsson, L. (2021). Effect of video games playing on surgical simulation training: A systematic review. *Folia Medica*, 63(5), 647–656. <https://doi.org/10.3897/folmed.63.e67296>
- Rosser, J. C., Jr., Lynch, P. J., Cuddihy, L., Gentile, D. A., Klonsky, J., & Merrell, R. (2007). The impact of video games on training surgeons in the 21st century. *Archives of Surgery*, 142(2), 181–186. <https://doi.org/10.1001/archsurg.142.2.181>

Esports and Well-being: A Scoping Review and Future Research Directions

Hao Yaxuan, Hong Kong Shue Yan University; Xiaobo KE, The Education University of Hong Kong;

Gu Yifei, Hong Kong Shue Yan University

Introduction: The rapid rise of esports has brought attention to its potential impacts on participants' well-being (Ke et al., 2025). While many studies have explored various ways to understand the potential association between esports engagement and well-being, there remains a lack of a comprehensive understanding of the multidimensional impacts of esports on well-being. This gap is particularly evident when considering differences across various levels of participation, including casual, amateur, and professional players (Ke and Wagner, 2024). Without a holistic overview of esports and well-being, efforts to promote well-being advocacy within esports remain fragmented and inconsistent.

Purpose: To address this gap, a scoping review focusing on esports and well-being is timely and essential. Such a review aims to organize and synthesize existing knowledge, providing researchers and practitioners with a comprehensive understanding of the current state of research on esports and its role in participants' well-being. Furthermore, it seeks to identify key areas for shaping future research endeavors.

Thus, two research objectives are established:

1. To comprehensively summarize the existing research findings on the relationship between esports participation and participants' well-being.
2. To develop future research opportunities by critically discussing the summarized findings.

Methods: We adopted a scoping review to explore relationships between esports and well-being, following PRISMA-ScR guidelines (Tricco et al., 2018). A systematic search with a comprehensive keyword pool retrieved 603 records from PubMed, Web of Science, and Scopus. After removing duplicates, 307 unique articles were screened, with 40 papers meeting inclusion criteria. Data extraction focused on esports participation forms, well-being indicators, and key findings, which were analyzed through in-depth content analysis by two independent reviewers.

Results: Although the analysis is still underway, several preliminary insights can be shared. First, current research on esports and well-being typically categorizes well-being into two primary dimensions: physical and psychological. Among these, physical well-being has received the most attention, followed by psychological well-being.

At the physical level, studies predominantly highlight the negative consequences of esports participation, such as reduced physical activity and sedentary behavior (Ketelhut et al., 2023).

In contrast, research on psychological well-being reveals both positive and negative impacts. On the positive side, resilience training and problem-focused coping strategies have been identified as effective methods for enhancing psychological well-being (Poulus et al., 2022). On the negative side, intense competition and limited social support are associated with an increased risk of mental health challenges (Mateo-Orcajada et al., 2022).

Additionally, most studies focus on professional esports players and casual gamers, often neglecting the impact of amateur esports engagement on well-being (Ke et al., 2025).

Discussion: Esports impacts well-being in dual ways: physical aspects show mostly negative effects, while psychological aspects are more complex, with positive outcomes from resilience training and negative impacts from competitive stress. Future research should focus on causal mechanisms, such as how esports participation influences the satisfaction of psychological needs and what measures could be taken to minimize the negative impacts of esports on physical health. Esports and well-being are complex phenomena involving multiple aspects of technology, human, and organizational dimensions. Interdisciplinary collaboration enables consideration from a socio-technical perspective, promoting health awareness in esports practice and research.

Significance: This review provides a foundation for future studies by summarizing existing knowledge and identifying research directions. As esports grows in popularity, understanding its impact on well-being becomes increasingly important, encouraging further exploration in this emerging field.

Keywords: Esports, Physical well-being, Psychological well-being, Scoping review

References

- Ke, X., Göbeler, L., & Wagner, C. (2025) Differences in Health Belief Between Gamers and Non-Gamers: Implications for Amateur Esports Development, *Journal of Electronic Gaming and Esports*, in press.
- Ke, X., & Wagner, C. (2024). What explains the next level of gaming? An experience-anticipation model for amateur esports participation. *Computers in Human Behavior*, 153, 108125.
- Ketelhut, S., Bodman, A., Ries, T., & Nigg, C. R. (2023). Challenging the portrait of the unhealthy gamer—the fitness and health status of Esports players and their peers: comparative cross-sectional study. *Journal of Medical Internet Research*, 25, e45063.

- Mateo-Orcajada, A., Abenza-Cano, L., & Vaquero-Cristóbal, R. (2022). Analyzing the changes in the psychological profile of professional League of Legends players during competition. *Computers in Human Behavior*, 126, 107030.
- Poulus, D. R., Coulter, T. J., Trotter, M. G., & Polman, R. (2022). Longitudinal analysis of stressors, stress, coping and coping effectiveness in elite esports athletes. *Psychology of sport and exercise*, 60, 102093.
- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of internal medicine*, 169(7), 467-473.

Global Labs in Action: Platform Governance, Labor Precarity and Career Trajectories in Esports Ecosystems in China

Yupei Zhao, Zhejiang University

Panel Description: In alignment with the ERNC25 theme “Future Realities: Esports as a Global Lab,” this panel brings together five scholars who particularly focus on Chinese eSport, from leading institutions in the UK and China to explore how esports ecosystems operate as experimental arenas for platform governance, state–industry collaboration, digital labor, and professional career development in China. As esports continues to blur the lines between policy, industry, and culture, this panel foregrounds how regional infrastructures and institutional strategies are evolving in response to digital transformation.

Professor Qi Peng and Professor Nicolas Scelles (Manchester Metropolitan University) examine stakeholder governance and the reconfiguration of economic models within esports, questioning whether frameworks from traditional sport can translate to digital competition. Professor Zhao Yupei (Zhejiang University), who will also chair the session, introduces the Tencent-led "umbrella platform" model, analyzing how platform capitalism intertwines with national policy agendas in constructing esports ecosystems, and how eSport as cultural diplomacy elaborates state and capital power flow over in China and worldwide. Professor Lin Zhongxuan (Jinan University) presents critical insights on esports players as self-enterprising agents navigating labor precarity and identity negotiation within China's high-pressure digital landscape. Professor Yue Meng-Lewis (The Open University) closes with a discussion on career continuity and fan-market dynamics, focusing on player development, retention, and communication strategies within global esports markets.

Together, the panel contributes to an interdisciplinary and comparative understanding of how Chinese esports operates as a live, cross-cultural laboratory for digital policy experimentation, professional transformation, and socio-technical innovation.

Keywords: Governance, Gaming Platforms, Esports Careers, Esports Players, Esports Ecosystem

Bracket Runner Game: A Game-based Learning Simulation to Teach Tournament Operations

Kurtis Homan, St. Cloud State University

Introduction: A problem that occurs while running esports events, but is rarely reported, are the issues that arise during operations and increase the total cost of the event. Operation costs come in many forms such as, wages, hardware, technical issues, non-gaming content on stream, and a variety of broadcasting practices. Each of these categories contribute to the runtime of an event that can lead to overtime pay of employees, overtime penalty of venue spaces, or over ordering of hardware. To identify these issues, a game-based learning approach is taken to assist participants in identifying the key issues in running a tournament and how to make real time decisions to reduce costly mistakes.

Purpose: The purpose of the bracket runner game is to aid in understanding cost and time involved in organized play events. Through repeated play and allowing pre-game decisions, participants gain insight of the challenges of running a time tournament.

Methods: The game was used in an undergraduate classroom in 2024 and was played over four class times. The game was played using a deck of cards representing players and both 30 second and a 60 second sand timer to represent off stream and stream stations respectfully. The material was used to run a 16-person double elimination tournament. Data was gathered to analyze the progress of participants and facilitate discussion of simulation related to operations research. Two metrics were tracked were total time and station utilization. Total time is a good indicator of how effective participants can complete a bracket. Station utilization is a measurement of real-time decision making to make efficient decisions to minimize delays of tournament operations.

Results: Six classroom participants completed the game four times to track individual progress overtime. Each participant demonstrated improvements in time and station utilization which shows evidence of development through practice. The results summarize total time and station utilization across each game attempt.

Table 1: Bracket game time results (minutes:seconds)

Time	Game 1	Game 2	Game 3	Game 4
Instructor	12:52	10:32	14:20	13:45
Best participant	20:32	15:12	15:13	18:29
High range	21:30	15:12	18:07	18:29
Low range	20:30	13:37	15:13	14:37

Table 2: Bracket runner game station utilization results (station utilization as a %)

Efficiency	Game 1	Game 2	Game 3	Game 4
Instructor	38.9%	47.5%	90.7%	94.5%
Best participant	24.4%	32.9%	39.4%	70.3%
High range	24.4%	36.7%	39.4%	70.3%
Low range	23.3%	32.9%	31.8%	37.6%

Discussion/Conclusion: Through the course of the games repetition and reflection have a positive effect on the reduction of total time and increase in utilization. Some students showed moderate gains as they were still figuring out how to put the theory into action, while others begin to experiment and identify where to improve.

Significance: This game has shown early positive correlation to teaching others what to focus on during a live event. By focusing on time and station utilization, event organizers will have a deeper understanding to assist with hiring decisions and hardware purchase/rental decisions, and overall training of bracket runners having direct correlation of time and cost reduction for esports events. An add-on is game 1 was conducted with six tournament organizers from NACE and NECC and they all performed worse than students with no prior experience, and the discussion involved the wrong direction resulting in higher cost.

Keywords: Event Planning, Serious Game, Operations, Education, Tournament

Time to ACT! Using Behavior Analytic Exercises Based on Acceptance and Commitment Therapy (ACT) to Improve Esports Player Communication

Jean Chance and Savannah Wilson, Florida Institute of Technology

Introduction: This intervention entailed creating behavior analytic exercises based on Acceptance and Commitment Therapy (ACT) hexaflex: present moment, defusion, values, committed actions, acceptance, and self as context with the Florida Tech Rocket League team.

Purpose/Research Question: The primary purpose of this study was to evaluate if the use of Acceptance and Commitment Therapy, through creation of permanent products, was effective in improving player communication. The secondary purpose of this study was to bridge the gap between behavior analysis and esports, supporting the dissemination of behavioral science into the novel field of esports.

Methods: Graduate level performance technicians (behavior technicians) and performance coach (Board Certified Behavior Analyst) defined and measured rates of productive and unproductive communication for players, as opposed to self-report of emotions and mentalisms more commonly seen in ACT literature. Productive communication was defined as positive statements supporting oneself, fellow teammates, or opponents. Unproductive communication was defined as negative self talk devaluing and talking down about oneself as it related to esports performance. Players were frequently informally asked about their experiences for social validity; this is the only instance of self-report data.

Results: The behavioral performance coaching team is actively conducting ACT exercises; current verbal behavior data collection shows clinically significant improvement with decreasing average rates of unproductive communication and increasing average rates of productive communication.

Discussion/Conclusion: These results have shown stability and improvements in communication, and a general improvement in team cohesiveness as seen through reports of team-based communication, camaraderie, and improved moods

Significance: These findings are socially significant because, historically, esports teams have a reputation of being emotional, volatile, and toxic. Through the implementation of ACT, Rocket League players experienced decreased levels of unproductive communication while simultaneously increasing productive communication; defying society's pre-conceived notions of esports players.

Keywords: Acceptance and Commitment Therapy, Behavior Analysis, Communication, Behavioral Performance, Player Development

References

- Beres, N. A., Klarkowski, M., & Mandryk, R. L. (2023). Playing with emotions: A systematic review examining emotions and emotion regulation in Esports performance. *Proceedings of the ACM on Human-Computer Interaction*, 7, 558 – 587, <https://doi.org/10.1145/3611041>
- Daubert, C. (2021). *Handbook of Esports medicine: Esports mental performance*. Springer.
- German, V. P. (2022). Increasing practical verbal behavior in Esports players. *Theses and Dissertations*. 180. <https://repository.fit.edu/etd/180>
- Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Kegelaers, J., Trotter, M. G., Watson, M., Pedraza-Ramirez, I., Bonilla, I., Wylleman, P. Mairesse, & O. Heel, M. V. (2024). Promoting mental health in Esports. *Frontiers Psychology Performance Science*, 15. <https://doi.org/10.3389/fpsyg.2024.1342220>

“One Random OWL Match Every Day: Day 133” Reddit as a Place of Commemoration and Recollection of the Overwatch League

Maria Ruotsalainen, University of Jyväskylä

Introduction: What happens when notable esports titles, brands, or leagues die? In the fast changing landscape of esports, new esports titles and leagues emerge while old ones go out of existence. In some cases, even whole esports titles are killed off, reminding us about the power the game companies have over their games (Karhulahti, 2017). However, even when leagues or titles disappear, something is always left behind - for example, the fan communities.

Purpose: In my presentation, I examine the reddit community r/competitiveoverwatch and the way it has reacted to discontinuation of the Overwatch League. Overwatch (Blizzard Entertainment, 2016) esports was dominated from 2018 to 2024 by the Overwatch League, a franchised esports league commissioned by the developer of the game, Blizzard Entertainment. While the Overwatch League was active, Blizzard Entertainment held tight control of the Overwatch IP, drastically limiting who could run Overwatch esports tournaments (Scholz, 2019). As a consequence, Overwatch League was almost synonymous with Overwatch Esports, together with its lower division league, Overwatch Contenders.

During this time, the subreddit r/competitiveoverwatch was an active community centered around the Overwatch League. The community was likewise recognized by the representatives of the Overwatch league: the casters would hold AMAs (ask me anything) there and frequently referenced to the subreddit while casting. As such, it played a pivotal role in the Overwatch esports fandom. Part of this fandom was an investment to the success of the Overwatch League and when the Overwatch league was discontinued (and largely seen having failed) in January 2024, the fandom had to come to terms with this and with the changes it brought to the landscape of Overwatch esports.

Method and data: To understand the community in question, I draw from multisited ethnography on Overwatch esports conducted in 2018 -2021 (see: Ruotsalainen, 2022) as well as more recent data encompassing discussion threads gathered from the last three years from the subreddit in question.

Discussion: In my analysis, I examine how the discontinuation of the Overwatch League has affected the community and in what way the Overwatch esports continues to be present in subreddit after it. By utilizing Adrian Parr's (2008) work on Deleuze and memorial culture, I demonstrate how commemorating and remembering Overwatch League is present in different ways and reflect on the functions of these acts for the Overwatch esports fandom.

Keywords: Fandom, Reddit, Overwatch, Memorial culture, Qualitative

References

- Blizzard Entertainment. (2016). *Overwatch*. [PlayStation 4, Nintendo Switch, Xbox One, Microsoft Windows]. Blizzard Entertainment
- Karhulahti, V. M. (2017). Reconsidering esports: Economics and executive ownership. *Physical culture and sport*, 74(1), 43.
- Parr, A. (2008). *Deleuze and memorial culture: desire, singular memory and the politics of trauma*. Edinburgh University Press.
- Ruotsalainen, M. (2022). *Overwatch esports and the (re) configurations of gender and nationality*. [Doctoral dissertation, University of Jyväskylä]. JYU dissertations.
- Scholz, T. M. (2019). *ESports is business. Management in the world of competitive gaming*. Cham, Switzerland: Palgrave Macmillan.

AI in Esports: Opportunities, Risks, and the Role of Educators

Joe McAllister, Insight Enterprises

Introduction (Background/Context): Artificial Intelligence (AI) is transforming the esports ecosystem, influencing gameplay, coaching, and education. As generative AI tools become more accessible, their integration into competitive gaming introduces both exciting opportunities and ethical challenges. This roundtable explores AI's evolving role in esports, with a focus on educational applications and the development of an AI-powered assistant bot.

Purpose/Research Question (Objective): This session investigates how AI technologies—particularly custom-built tools like the Esports assistant bot created using Copilot Studio—can enhance esports education and competition. It asks: How can AI support player development, program management, and academic readiness? What risks must be managed to ensure equitable and ethical use?

Methods (Approach): The presentation synthesizes trends in AI adoption across gaming, education, and workforce development. It draws on case studies and industry data, including the design and deployment of a custom Esports assistant bot built in Copilot Studio. This bot was developed to support novice coaches and students by offering in-depth technical knowledge of the game, guiding practice setup based on user questions, and adapting to varying levels of expertise.

Results (Key Findings): AI tools are enhancing player performance through real-time feedback, predictive modeling, and personalized training. The Esports assistant bot demonstrates how AI can streamline program management, generate practice plans, and simulate scrimmages. In educational settings, AI supports curriculum integration and STEAM learning. However, risks include cheating, overreliance on automation, and widening access gaps due to funding disparities.

Discussion/Conclusion (Interpret Findings): AI offers significant benefits for esports education, but its use must be guided by ethical practices and inclusive design. The assistant bot built in Copilot Studio exemplifies how educators can leverage AI to improve efficiency and engagement while maintaining human oversight. Responsible integration requires attention to fairness, data privacy, and accessibility.

Significance (Practical Implications): This session provides actionable insights for educators, program leaders, and policymakers. It emphasizes the importance of equitable access, ethical implementation, and educator involvement in shaping the future of AI-enhanced esports. The Esports assistant bot serves as a model for how custom AI solutions can be tailored to meet the unique needs of scholastic and collegiate esports programs.

Keywords: AI, Artificial Intelligence, Policy, Agents, Coach

References

- Insight. (2025a). Generative AI Growth. Slide 4, AI in Esports NAECAD Roundtable.
- Insight. (2025b). AI Coaching & Player Development. Slide 12, AI in Esports NAECAD Roundtable.
- Insight. (2025c). Academic & Career Readiness. Slide 15, AI in Esports NAECAD Roundtable.
- Insight. (2025d). Competitive Integrity & Cheating. Slide 17, AI in Esports NAECAD Roundtable.
- Insight. (2025e). Data Privacy & Surveillance. Slide 19, AI in Esports NAECAD Roundtable.
- Insight. (2025f). Equity & Access Gaps. Slide 20, AI in Esports NAECAD Roundtable.

Examining the Role of High School Esports in Student Academic Performance and Attendance

Jennifer Zimmerli, Rockhurst University

Introduction: As high school esports (organized online student gaming clubs and competitive teams) gain in popularity, concerns about school-based gaming persist (Cheng et al., 2022; Lemay et al., 2024). While qualitative studies offer mixed academic and attendance results, quantitative research is lacking (Cheng et al., 2022; Cho et al., 2019, Trotter et al., 2022). Broad industry claims of academic and attendance benefits also lack peer-reviewed validation, necessitating evidence-based insights for educators (Archambeault, 2020). This study fills this gap by quantifying these effects.

Purpose/Research Question: This research aimed to quantify the relationship between high school esports participation and student academic performance (GPA) and attendance. The study investigated: (1) Does esports participation influence academic performance? (2) Does esports participation influence school attendance? (3) Does the level of esports participation (competitive versus recreational) influence academic performance or attendance?

Methods: A comparative research design analyzed data from high school esports participants across two semesters in a Midwest suburban school district. Players self-selected into competitive (Team A) or recreational (Team B) groups. Academic performance (cumulative GPA) and attendance (total missed days) were compared against the Total District High School (TDHS) population and Kansas State High School Activities Association (KSHSAA) participant means. One-sample t-tests were used for mean comparisons, and independent t-tests for team differences. Shelved, confidential post-season data were collected from the district's school information system across two semesters for comparison.

Results: The study found no statistically significant difference in GPA between esports participants and the overall TDHS population in either semester. However, esports GPAs were significantly lower than the KSHSAA mean for both semesters. For attendance, no significant difference was observed in Spring 2024. Conversely, esports attendance was significantly higher than both TDHS and KSHSAA populations during Fall 2024. No significant mean difference was found in GPA or attendance between competitive (Team A) and recreational (Team B) players in either semester.

Discussion/Conclusion: Esports participants maintain academic performance comparable to the general student population, indicating no academic harm. Lower GPAs compared to KSHSAA participants may stem from the absence of academic eligibility requirements for esports, potentially attracting students with lower cumulative GPAs not served by traditional activities. Results do not support broad industry claims

of GPA improvement within the timeframe studied (Archambeault, 2020). The significant attendance increase in Fall 2024 suggests a potential delayed engagement effect warranting future study. Both competitive and recreational formats yielded similar academic and attendance outcomes.

Significance: This study provides evidence-based insights for educators. Findings suggest esports can be an engagement tool for at-risk or disengaged students, potentially addressing chronic absenteeism. Longitudinal studies with larger, diverse samples are recommended to track long-term impacts on GPA, attendance, and demographics, and to determine optimal participation thresholds. Further research should explore esports' role as an intervention program and how program design fosters belonging and supports academic success.

Keywords: esports, academic, performance, attendance, high school

References

- Archambeault, L. (2020). It's time for schools to embrace video games. [Www.nsba.org](https://web.archive.org/web/20240118061741/https://www.nsba.org/ASBJ/2020/February/esports).
<https://web.archive.org/web/20240118061741/https://www.nsba.org/ASBJ/2020/February/esports>
- Attendance Works. (2019). Teens more likely to miss school in the spring, new Get Schooled survey shows. <https://www.attendanceworks.org/teens-more-likely-to-miss-school-in-the-spring-new-get-schooled-survey/>
- Aviles, C. (2024). How to use esports to increase attendance, and funding. District Administration. <https://districtadministration.com/how-to-use-esports-to-increase-attendance-and-funding/>
- Baker College. (2024). The rise of esports: Exploring the competitive gaming phenomenon. <https://www.baker.edu/about/get-to-know-us/blog/exploring-esports-industry-opportunities-in-competitive-gaming/>
- Bialecki, A., Bialecki, R., & Gajewski, J. (2022). Redefining sports: esports, environments, signals and functions. *International Journal of Electronics and Telecommunications*, 68(3), 541–548.
<https://doi.org/10.24425/ijet.2022.141272>
- Butler, S. (2021). Esports: On the rise and changing lives. CCS Presentation Systems. <https://ccsprojects.com/esports-on-the-rise-and-changing-lives/#:~:text=Participation%3A%20More%20than%2080%25%20of>
- CASEL. (2024). What is the CASEL framework? Collaborative for Academic, Social, and Emotional Learning (CASEL). <https://casel.org/fundamentals-of-sel/what-is-the-casel-framework/>

- Chen, S., Li, X., Yan, J., & Ren, Z. (2021). To be a sportsman? Sport participation is associated with optimal academic achievement in a nationally representative sample of high school students. *Frontiers in Public Health*, 9(730497). <https://doi.org/10.3389/fpubh.2021.730497>
- Cheng, M., Chen, L., & Yuen, A. H. K. (2022). Exploring the use of technology among newly arrived children in Hong Kong: from an e-sports and cultural capital perspective. *Educational Technology Research and Development*, 70(5), 1931–1949. <https://doi.org/10.1007/s11423-022-10130-y>
- Cho, A., Tsaasan, A. M., & Steinkuehler, C. (2019). The building blocks of an educational esports league. In *Proceedings of the 14th International Conference on the Foundations of Digital Games*. August 2019(30), 1–11. <https://doi.org/10.1145/3337722.3337738>
- D&H Distributing. (2023). Esports Playbook [PDF].
<https://www.dandh.com/media/pdf/pages/esports/2023/Esports-Playbook-0223.pdf>
- de Groot, K. (2024, April 4). Esports scholarships and their impact on higher education diversity. *DashFight*. <https://dashfight.com/news/esports-scholarships-and-their-impact-on-higher-education-diversity-5503>
- Gaeddert, B. (2024). The role of esports in modern education: A guide for digital parents. *Family Online Safety Institute*. <https://www.fosi.org/good-digital-parenting/the-role-of-esports-in-modern-education-a-guide-for-digital-parents>
- Flannery, M. E. (2021). Esports see explosive growth in U.S. high schools. *neaToday*. National Education Association (NEA). <https://www.nea.org/nea-today/all-news-articles/esports-see-explosive-growth-us-high-schools>
- Generation Esports. (2024). High school esports league | Help. <https://help.generationesports.com/hc/en-us/sections/360013114792-High-School-Esports-League>
- Global Education Monitoring Report Team. (2023). Technology in education: A tool on whose terms? *Global Education Monitoring Report Summary 2023*. <https://doi.org/10.54676/HABJ1624>
- Perry, M. (n.d.). Esports – Goshen Community Schools. *Goshen Community Schools*. <https://www.goshenschools.org/esports>
- Hangh√[[]j, T., Lieberoth, A., & Misfeldt, M. (2018). Can cooperative video games encourage social and motivational inclusion of at-risk students? *British Journal of Educational Technology*, 49(4), 775–799. <https://doi.org/10.1111/bjet.12642>

- Hsu, H.-Y., Lee, K., Bentley, J., & Acosta, S. (2019). Investigating the role of school-based extracurricular activity participation in adolescents' learning outcomes: A propensity score method. *Journal of Education and Learning*, 8(4), 8–17. <https://doi.org/10.5539/jel.v8n4p8>
- Juvonen, J. (2006). Sense of belonging, social bonds, and school functioning. In P. A. Alexander & P. H. Winne (Eds.), *Handbook of Educational Psychology*. 655–674. <https://psycnet.apa.org/record/2006-07986-028>
- Knifsend, C. A., & Graham, S. (2011). Too much of a good thing? How breadth of extracurricular participation relates to school-related affect and academic outcomes during adolescence. *Journal of Youth and Adolescence*, 41(3), 379–389. <https://doi.org/10.1007/s10964-011-9737-4>
- Lemay, A., Dufour, M., Goyette, M., & Djamal Berbiche. (2024). ESport programs in high school: What's at play? *Frontiers in Psychiatry*, 15, 1–10. <https://doi.org/10.3389/fpsyt.2024.1306450>
- Liem, G. A. D., & Martin, A. J. (2011). Peer relationships and adolescents' academic and non-academic outcomes: Same-sex and opposite-sex peer effects and the mediating role of school engagement. *British Journal of Educational Psychology*, 81(2), 183–206. <https://doi.org/10.1111/j.2044-8279.2010.02013.x>
- Lockstep Group. (2022). *Esports Playbook*. <https://lockstepgroup.com/wp-content/uploads/2023/11/Esports-Playbook.pdf>
- Logitech. (2024). *Esports in Education*. <https://www.logitech.com/content/dam/logitech/en/education/pdf/esports-in-education.pdf>
- Missouri Department of Higher Education and Workforce Development. (2021). The next level: Esports scholarships on the rise in Missouri. *Journey To College*. <https://journeytocollege.mo.gov/the-next-level/>
- PlayVS. (2021). Esports: The new after-school activity you should know about. *Our Children*. <https://ptaourchildren.org/esports-competitive-video-gaming-benefits/>
- Polygalov, P. (2024). Career opportunities in the esports industry. *United States Academic Esports League*. <https://www.usacademicesports.com/post/more-than-gaming-career-opportunities-in-the-esports-industry>
- Robinson, M., & Shrum, D. (2021, April 12). Inside OSU: The growth of esports [Podcast]. *Oklahoma State University*.
- Rudolf, K., Bickmann, P., Froböse, I., Tholl, C., Wechsler, K., & Grieben, C. (2020). Demographics and health behavior of video game and esports players in Germany: The esports study 2019.

- International Journal of Environmental Research and Public Health, 17(6), 1–14.
<https://doi.org/10.3390/ijerph17061870>
- Symonds, J. E., D'Urso, G., & Schoon, I. (2022). The long-term benefits of adolescent school engagement for adult educational and employment outcomes. *Developmental Psychology*, 59(3), 503–514.
<https://doi.org/10.1037/dev0001458>
- Taylor, N., & Stout, B. (2020). Gender and the two-tiered system of collegiate esports. *Critical Studies in Media Communication*, 37(5), 1–15. <https://doi.org/10.1080/15295036.2020.1813901>
- Trotter, M. G., Coulter, T. J., Davis, P. A., Poulus, D. R., & Polman, R. (2022). Examining the impact of school esports program participation on student health and psychological development. *Frontiers in Psychology*, 12, 1–12. <https://doi.org/10.3389/fpsyg.2021.807341>
- ViewSonic. (2021). Why esports in schools is a good thing.
<https://www.viewsonic.com/library/education/esports-schools-good/>
- Wachsmuth, S., Lewis, T. J., & Gage, N. A. (2023). Exploring extracurricular activity participation, school engagement, and social competence for students with emotional and behavioral disorders. *Behavioral Disorders*, 48(4), 255–268. <https://doi.org/10.1177/01987429231166675>
- Wong, W. (2022). How esports is helping students improve their grades and build leadership skills. *EdTech Magazine*. <https://edtechmagazine.com/k12/article/2022/07/how-esports-helping-students-improve-their-grades-and-build-leadership-skills>

Enhancing In-Game Communication in Collegiate Esports: A Behavior-Analytic Intervention Using Discriminative Cues

Adrienne Lafond, Florida Institute of Technology

Introduction/Purpose: This applied project evaluated a behavior-based coaching intervention to improve in-game communication among collegiate Valorant players by targeting two key verbal behaviors: mands (think "demand"; requests for actions or support) and tacts (think "contact"; actionable statements about the in-game environment).

Method: Using a team-selected keyword as a cue, "Chirp", this functioned as a discriminative stimulus (SD), prompting productive communication. Graduate-level behavior technicians implemented structured training and reinforcement strategies during practice to increase relevant communication during the buy phase.

Results: Results showed an average increase of 160% in mands and 49% in tacts across all players. After removing high-performing athletes, even greater gains (277% and 82%, respectively) were seen among those initially exhibiting low communication rates.

Discussion: These findings suggest that behavior analytic techniques, particularly those involving discriminative cues, can meaningfully enhance communication and decision-making in competitive esports. By functioning as discriminative stimuli, keywords signal when specific verbal behaviors are likely to be reinforced, helping players allocate attention and responses more efficiently. Efficiency is crucial in a game title like Valorant, where competitors have only 30 seconds to discuss a game plan during the buy phase.

Significance: This offers a scientific explanation for why performance cues are effective when used by coaches and underscores the importance of intentional training, reinforcement, and fading strategies for optimal implementation. Social validity measures indicated strong support from players and coaches, reinforcing the potential of applied behavior analysis (ABA) to drive performance outcomes in collegiate gaming environments.

Keywords: Applied Behavior Analysis, Communication Training, Discriminative Cues, Performance Enhancement, Collegiate Esports

References

Axe, J. B., & McCarthy-Pepin, M. (2021). On the use of the term, "discriminative stimulus," in behavior analytic practice. *Behavioral Interventions*, 36(3), 667–674. <https://doi.org/10.1002/bin.1776>

- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some still-current dimensions of Applied Behavior Analysis. *Journal of Applied Behavior Analysis*, 20(4), 91–97.
<https://doi.org/10.1901/jaba.1987.20-313>
- Coon, J. C., & Rapp, J. T. (2017). Application of multiple baseline designs in behavior analytic research: Evidence for the influence of New Guidelines. *Behavioral Interventions*, 33(2), 160–172.
<https://doi.org/10.1002/bin.1510>
- Montes, C. C., Heinicke, M. R., & Geierman, D. M. (2019). Awareness training reduces college students' speech disfluencies in public speaking. *Journal of Applied Behavior Analysis*, 52(3), 746–755.
<https://doi.org/10.1002/jaba.569>
- Stocco, C. S., Thompson, R. H., Hart, J. M., & Soriano, H. L. (2017). Improving the interview skills of college students using behavioral skills training. *Journal of Applied Behavior Analysis*, 50(3), 495–510. <https://doi.org/10.1002/jaba.385>

Behavioral Performance Coaching: Advancing Collegiate Esports Through Behavior

Adrienne Lafond and Savannah Wilson, Florida Institute of Technology

Introduction: Collegiate esports programs frequently face challenges in sustaining player consistency, effective communication, and leadership, despite having skilled rosters. Unlike traditional sports, esports often lacks structured performance support systems. To address this gap, Florida Institute of Technology established Behavioral Performance Coaching (BPC), a collaborative initiative between the esports program and the School of Behavior Analysis. BPC integrates Applied Behavior Analysis (ABA) to create measurable improvements in both individual athlete performance and organizational processes.

Purpose: The objective of BPC is to determine how behavior-analytic principles can enhance key performance skills (such as communication and leadership) in esports athletes, while simultaneously improving the efficiency and structure of esports programs.

Methods: Graduate students in behavior analysis, supervised by Board Certified Behavior Analysts (BCBAs), worked directly with Florida Tech's collegiate esports teams and organization. Data were collected through direct observation, in-game performance tracking, and pre/post-intervention measures. Services included communication training (focused on productive in-game calls), leadership workshops (feedback delivery and scenario planning), and Acceptance and Commitment Training (ACT) for managing negative self-talk and fostering value-driven play.

Results: BPC interventions produced socially significant improvements across multiple metrics. Communication efficiency increased, on average, by 49–160% overall, with some athletes demonstrating gains up to 82–277% when high-performing outliers were excluded. ACT interventions reduced negative self-talk on average by 40% and increased positive in-game statements on average by 94%. Leadership skills, such as correct feedback delivery in difficult situations, were practiced across 11 different role-playing scenarios.

Discussion: As demonstrated, we are able to create measurable and observable definitions of behavior with clear goals, rather than relying on self-report data of vague buzzwords. Findings suggest that observable, data-driven performance coaching rooted in ABA offers a powerful alternative to traditional approaches, which often rely on subjective self-reporting. BPC demonstrates that small, evidence-based environmental changes can produce sustainable behavioral improvements.

Significance: The BPC model offers a scalable, cost-effective framework for educators, directors, and esports professionals seeking to support player development beyond raw talent. By embedding behavior-

analytic coaching into teams and organizational systems, esports programs can cultivate skills that not only influence game performance but also translate into student growth, teamwork, and career readiness.

Keywords: Behavior Analysis, Performance Improvement, Communication, Leadership, Collegiate Esports

References

- Axe, J. B., & McCarthy-Pepin, M. (2021). On the use of the term, "discriminative stimulus," in behavior analytic practice. *Behavioral Interventions*, 36(3), 667–674. <https://doi.org/10.1002/bin.1776>
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some still-current dimensions of Applied Behavior Analysis. *Journal of Applied Behavior Analysis*, 20(4), 91–97. <https://doi.org/10.1901/jaba.1987.20-313>
- Coon, J. C., & Rapp, J. T. (2017). Application of multiple baseline designs in behavior analytic research: Evidence for the influence of New Guidelines. *Behavioral Interventions*, 33(2), 160–172. <https://doi.org/10.1002/bin.1510>
- German, V. P. (2022). Increasing practical verbal behavior in Esports players. Theses and Dissertations. 180. <https://repository.fit.edu/etd/180>
- Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Migliore, L., McGee, C., & Moore, M. (2021). *Handbook of esports medicine: Clinical aspects of competitive video gaming*. Springer. <https://doi.org/10.1007/978-3-030-73610-1>

The Effects of the Teaching Interactions Procedure on Esports Coaches Feedback Delivery

Alyson Mary Intihar, Florida Tech

Introduction: Esports coaches know their game, their team, and the skills players need to develop. However, not all coaches have equal experience and training in coaching, and it can be difficult to give players the feedback they need. Developing players into coaches can be difficult, costly, and time-consuming, but necessary for teams to flourish.

Purpose/Research Question: This remote research study conducted via Discord evaluated a evidence-based behavioral training method called the Teaching Interaction Procedure (TIP) to quickly and effectively teach coaches how to give feedback to players.

Methods: TIP is a systematic teaching package that involves labeling and identifying the skill to be taught, providing meaningful rationales, breaking down the skill into steps, demonstrating examples and non-examples of the desired performance, roleplaying, and providing feedback after the learner has an opportunity to practice the skill (Leaf et al., 2015). In addition, if participants did not reach mastery with TIP alone, a feedback intervention was implemented. The participants for the study were three adult Esports coaches, each paired with two Rocket League players in coach-player triads. The design for the study was a nonconcurrent multiple baseline across participants, with the length of the baseline condition varying for different lengths across participant triads.

Results: In comparison to baseline (Phase Average: 20.44%), all three participants displayed an increased percentage of feedback components (Phase Average: 72.19%) post TIP. Though, this increase in behavior was not sufficient for two of the three participants to reach the mastery criterion (Initial: 100% accuracy across 3 consecutive sessions, Revised: 80% or higher accuracy across 3 consecutive sessions). This was later achieved once a feedback intervention, which was the same type of feedback given to them during TIP, was implemented. Feedback delivery also maintained two weeks after training and generalized to novel players.

Discussion/Conclusion: The results of the study indicated the effectiveness of the TIP to increase feedback delivery skills among the participants, with mastery being achieved for two of the participants once the feedback component of TIP was added back in. This suggests the potential necessity of the feedback component of TIP during the training process of feedback delivery.

Significance: TIP is a cost-effective, efficient, and effective training methodology that can be conducted in naturalistic remote Esports settings. It provides Esports leadership and future courses a framework they can utilize to train a vital skill for Esports coaches and staff.

Keywords: feedback, feedback delivery, staff training, teaching interactions procedure

References

Leaf, J. B., Townley-Cochran, D., Taubman, M., Cihon, J. H., Oppenheim-Leaf, M. L., Kassardjian, A., Pentz, T. G. (2015). The teaching interaction procedure and behavioral skills training for individuals diagnosed with autism spectrum disorder: A review and commentary. *Review Journal of Autism and Developmental Disorders*, 2, 402–413. <https://doi.org/10.1007/s40489-015-0060-y>.

Play to Belong: Library-Based Esports Hubs as Engines for Inclusive Participation and Leadership Development

Sara Roldan and Zachary McDaniel, San Diego State University

Collegiate esports still skews white, male, and neurotypical, reinforcing a persistent "gamer-stigma" that signals to women, BIPOC students, and neurodivergent learners that they are not welcome in gaming spaces. This culture of toxicity and lack of inclusivity, as seen in both U.S. collegiate programs and broader gaming identity narratives, also blocks pathways to leadership (Cote et al., 2023; Hayday & Collison, 2020; Xue et al., 2019). The challenge is not just one of representation but of establishing diversity, equity, and inclusion as a core practice, from esports organizations to the wider industry (Friman et al., 2023; Parshakov et al., 2018).

San Diego State University's Play to Belong Initiative (P2B) locates the Esports Engagement Center inside the 24-hour library to flip that narrative: the scholarly setting reframes gaming as legitimate study, while a workshop series co-designed with campus identity centers cultivates diversity, equity, and inclusion in both participation and leadership. Two Fall 2024 pilot workshops used expert panels, mentorship breakouts, and cooperative scrims to showcase marginalized voices, attracting the hub's most demographically varied audiences. Preliminary logs show a notable increase in Latino attendees and a slight decrease in white and Asian attendees, although gender representation remains a persistent gap (82% men, 18% women/nonbinary). Observational field notes captured students reporting they felt "seen" and volunteering to organize future events, aligning with ecological-belonging research showing context-specific interventions erase equity gaps where threat is salient (Hammarlund et al., 2022) and with social-capital studies linking cooperative play to emergent leadership (Perry et al., 2018; Verheijen et al., 2019). Building on this momentum, Fall 2025 will introduce "Neurodivergency & Mental Wellness in Gaming" and "Safety First: Preventing Radicalisation in Game Spaces," integrating pre- and post-college Belonging and IGDS9-SF surveys to connect engagement with academic persistence, well-being, and help-seeking. A systematic review on gaming disorder and wellbeing (Anderson et al., 2017) and other positive-gaming literature underscore the approach: cooperative, purpose-aligned play fosters flourishing (Vella & Johnson, 2012), mitigates problematic gaming when moderated by motivation and context (Halbrook et al., 2019), and builds social capital transferable to offline friendships and civic engagement (Perry et al., 2018). Wellness modules leverage games' capacity for emotion regulation and flow (Granic et al., 2014), while radicalisation-prevention content adapts critical-media-literacy guidelines (O'Connor & Darr, 2020). By

situating the hub beside advising kiosks, study pods, and micro-externship matchmaking, P2B aims for a 5% retention lift and a 0.5 standard-deviation belonging boost among target groups within one year. Open-access slide decks, safety guides, and leadership-tracking templates will allow peer institutions to replicate this low-cost, high-visibility model, demonstrating that embedding an esports center in the university library is not a novelty but a strategic intervention that unites play, belonging, and academic success under one roof, providing a scalable path toward inclusive excellence in the digital age.

Keywords: esports, diversity, inclusion, belonging, leadership

References

- Anderson, E. L., Steen, E., & Stavropoulos, V. (2017). Internet gaming disorder and wellbeing: A systematic review. *Clinical Psychology Review*, 54, 41–58. <https://doi.org/10.1016/j.cpr.2017.04.004>
- Cote, A., Wilson, A., Hansen, J., Harris, B., Rahman, M., Can, O., Fickle, T., & Foxman, M. (2023). Taking care of toxicity: Challenges and strategies for inclusion in U.S. collegiate esports programs. *Journal of Electronic Gaming and Esports*, 1(1), 1–13. <https://doi.org/10.1123/jege.2022-0031>
- Friman, U., Ruotsalainen, M., & Ståhl, M. (2023). Communicating and practicing diversity, equity, and inclusion in Finnish esports organizations: Challenges and opportunities. *Journal of Electronic Gaming and Esports*, 1(1), 1–16. <https://doi.org/10.1123/jege.2022-0040>
- Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78. <https://doi.org/10.1037/a0034857>
- Halbrook, Y. J., Halbrook, J., & Wilson, G. L. (2019). The roles of motivation, social context, and gaming genre in problematic video game use. *Computers in Human Behavior*, 99, 324–332. <https://doi.org/10.1016/j.chb.2019.05.021>
- Hammarlund, B., Gentry, B., Gorski, L. A., & Slayton, J. (2022). An ecological approach to belonging: Supporting rural first-generation students through context-specific interventions. *Journal of Student Affairs Research and Practice*, 59(3), 329–342. <https://doi.org/10.1080/19496591.2021.1963162>
- Hayday, E., & Collison, H. (2020). Exploring the contested notion of social inclusion and gender inclusivity within eSport spaces. *Social Inclusion*, 8(3), 197–208. <https://doi.org/10.17645/si.v8i3.2755>

- O'Connor, R. E., & Darr, J. J. (2020). The digital front line: Combating radicalization and extremism on social media platforms and in gaming communities. *Journal of Applied Security Research*, 15(2), 154–171. <https://doi.org/10.1080/19361610.2020.1740941>
- Parshakov, P., Coates, D., & Zavertiaeva, M. (2018). Is diversity good or bad? Evidence from eSports teams analysis. *Applied Economics*, 50(46), 5064–5075. <https://doi.org/10.1080/00036846.2018.1470315>
- Perry, S. L., Johnson, T. D., & Johnson, D. W. (2018). Building social capital in the digital age: The effects of online cooperative game play on social skills and social networks. *Journal of Computer-Mediated Communication*, 23(3), 162–177. <https://doi.org/10.1093/jcmc/zmy007>

Health Among Esports Players: A Cross-National Survey Study

Oliver Leis, Leipzig University

Introduction: The growth of the industry and individual demands of the esports environment necessitate a better understanding of the health and lifestyle behaviors of its players to inform evidence-based guidelines, support structures, and targeted interventions. Despite rising interest, empirical data on players' well-being across different cultural and competitive contexts is limited.

Purpose: To inform future research and development of guidelines, support structures, and tailored health interventions, this study aimed to explore the health status and behaviors among an international sample of esports players.

Methods: A total of 413 esports players ($M = 24.03$ years, $SD = 7.34$) from 38 countries completed an online survey assessing BMI, smoking and drinking habits, physical activity, mental and general health, sleep behavior, and perceived social support. Participants varied in gender, competitive level, and game titles, with an average of 7.64 years of experience and 15.65 hours of weekly play. Data analysis is currently underway.

Results: Results will be presented at the conference and may include comparisons among the largest national samples.

Discussion: This study addresses a gap in esports research by providing insights into players' health behaviors across diverse countries. Understanding these factors is essential for developing tailored health interventions and support systems. Limitations, implications, and future research directions will be presented at the conference. For example, a follow-up interview study could provide more detailed insights to further inform research and practical applications in esports health.

Significance: The findings highlight the need for further research that considers individual factors (e.g., gender) and contextual influences (e.g., competitive level, cultural background). Practical implications may include tailored health promotion and improved support systems. Advancing understanding of health can enhance performance and well-being among esports players.

Keywords: well-being, mental health, physical activity, sport psychology, competitive gaming

References

- Kegelaers, J., Trotter, M. G., Watson, M., Pedraza-Ramirez, I., Bonilla, I., Wylleman, P., ... & Van Heel, M. (2024). Promoting mental health in esports. *Frontiers in Psychology, 15*, 1342220.
<https://doi.org/10.3389/fpsyg.2024.1342220>
- Monteiro Pereira, A., Costa, J. A., Verhagen, E., Figueiredo, P., & Brito, J. (2022). Associations between esports participation and health: a scoping review. *Sports Medicine, 52*(9), 2039-2060.
<https://doi.org/10.1007/s40279-022-01684-1>
- Poulus, D. R., & Sharpe, B. T. (2025). A Protocol for International Mental Health Guidelines for Esports. *Journal of Electronic Gaming and Esports, 3*(1). <https://doi.org/10.1123/jege.2024-0066>
- Rudolf, K., Bickmann, P., Froböse, I., Tholl, C., Wechsler, K., & Grieben, C. (2020). Demographics and health behavior of video game and eSports players in Germany: the eSports study 2019. *International Journal of Environmental Research and Public Health, 17*(6), 1870.
<https://doi.org/10.3390/ijerph17061870>
- Trotter, M. G., Coulter, T. J., Davis, P. A., Poulus, D. R., & Polman, R. (2020). The association between esports participation, health and physical activity behaviour. *International Journal of Environmental Research and Public Health, 17*(19), 7329.
<https://doi.org/10.3390/ijerph17197329>

The Prevalence and Impact of Harassment on Women and Marginalised Genders in UK Esports

Jessica Hayburn, Leeds Beckett University

Introduction: The UK esports industry is expanding rapidly, however women and marginalised genders remain underrepresented and frequently face harassment and discrimination (Darvin et al., 2021). Women make up nearly half of UK gamers (Clements, 2024), and yet a recent non-academic, commercial survey found almost 60% reported online abuse, and 30% have faced sexual harassment or exclusion in gaming (Bryter, 2020). In esports, women also experience more sexual and derogatory comments than men (Ruvalcaba et al., 2018). Despite these concerns, empirical research on the prevalence and implications of harassment in esports is limited. This makes it challenging to understand the extent of the issue, and develop strategies to address harassment in esports.

Purpose: This study sought to examine the prevalence, burden, and impact of harassment directed at women and marginalised genders in UK esports, focusing on how such experiences affected performance, engagement, and representation. The aims were to (1) assess harassment frequency and its impact on self-rated performance, drop out intentions, and perceptions of gender identity, and (2) provide a foundation for empirical data on women and marginalised gendered sample within esports literature.

Methods: A cross-sectional prevalence and burden study was conducted (Capili, 2021) on current women and marginalised gendered esports players to examine their experiences of harassment. Participants completed an online questionnaire on harassment experienced, drop out intentions, time loss, perceptions of gender identity, and self-rated performance.

Results: Among 30 participants (24 cisgender women, 5 transgender women, 1 transgender man), over 90% reported weekly harassment, with a moderate negative association between harassment and self-rated performance. Over 30% took time away from esports due to harassment. However, there was also a moderate negative association between harassment frequency and drop out intentions.

Discussion: This study provides initial empirical evidence on harassment of women and marginalised genders in UK esports, reinforcing earlier qualitative findings (Darvin et al., 2021; Madden et al., 2021) about its negative impact on performance and engagement. The study also furthers the literature on women and marginalised genders in esports in a research base currently overrepresented by male participation (Di Nicola et al., 2024).

Significance: The findings highlight persistent issues of harassment and discrimination in esports, highlighting the need for stakeholders, governing bodies, and developers to foster safer environments for women and marginalised genders.

Keywords: Gender, Discrimination, Esports/Electronic Gaming, Performance, Inclusion

References

- Bryter. (2020, March, 26). Female Gamers Survey 2020. <https://www.bryter-global.com/blog/female-gamers-survey-2020>
- Capili B. (2021). Cross-Sectional Studies. *The American journal of nursing*, 121(10), 59–62. <https://doi.org/10.1097/01.NAJ.0000794280.73744.fe>
- Clement, J. (2024, November 11). Share of internet users worldwide who play video games on any device as of 2nd quarter 2024, by age group and gender. <https://www.statista.com/statistics/326420/console-gamers-gender/>. Statista.
- Darvin, L., Holden, J., Wells, J., & Baker, T. (2021). Breaking the glass monitor: Examining the underrepresentation of women in esports environments. *Sport Management Review*, 24(3), 475–499. <https://doi.org/10.1080/14413523.2021.1891746>
- Di Nicola, S., de Assunção, C., & Swettenham, L. (2024). The Overrepresentation of Cisgender Men in Esports Research. *International Journal of Esports*, 1(1). Retrieved from <https://www.ijesports.org/article/121/html>
- Madden, D., Liu, Y., Yu, H., Sonbudak, M. F., Troiano, G. M., & Harteveld, C. (2021, May). "Why are you playing games? You are a girl!": Exploring gender biases in Esports. In *Proceedings of the 2021 CHI conference on human factors in computing systems* (pp. 1-15). <https://doi.org/10.1145/3411764.344524>
- Ruvalcaba, O., Shulze, J., Kim, A., Berzenski, S. R., & Otten, M. P. (2018). Women's experiences in esports: Gendered differences in peer and spectator feedback during competitive video game play. *Journal of Sport and Social Issues*, 42(4), 295–311. <https://doi.org/10.1177/0193723518773287>

Seeing Into the Future: Opportunities and Challenges for Immersive Media in Esports Player and Fan Experiences

Maxwell Foxman, University of Oregon; Shane Burrell, University of Oregon; Vasil Arangelov, University of Oregon; Amanda C. Cote, Michigan State University; and Jeff Clements, University of Oregon

Introduction: Esports success is due in part to emerging technologies, with scholars noting that growth hinged on innovation from corporate and infrastructural partnerships (e.g., Taylor, 2015). This adoption impacts players and spectators, creating novel modes of fandom via modalities like livestreaming (Taylor, 2018), which helped reshape industry practices particularly after COVID-19 lockdowns (Besombes & Jenny, 2023; Cote et al., 2023).

Immersive media like virtual reality (VR) portends another potential frontier for competitive gaming. Following trends in "virtual sports," where competitors must employ physical movements outside of gaming consoles and computers (Parry & Giesbrecht, 2024), immersive esports could provide players with physically taxing virtual environments and spectators with unique spaces for co-location beyond a livestream's chat. However, research into usefulness and adoption is limited (Turkay et al., 2021), especially as publishers like Valve abandoned VR experiments despite critical acclaim (Kamen, 2016).

This study therefore aims to explore the opportunities and challenges of immersive media for esports, with a focus on player and fan experiences. Specifically, we ask:

RQ1: How can emerging modalities like VR and AR impact esports?

RQ2: How can VR and AR impact spectatorship experience specifically?

Methods: We address these questions using a multimethod approach combining real-world cases of esports integrating VR with empirical data on use. Utilizing employed theoretical sampling, where data collection is guided by emerging theory (Draucker et al., 2007), we begin with a collective case study (Hancock et al., 2021); given the nascent use of VR within the industry, this approach allows us to focus on relevant examples. We specifically investigate Valve's deployment of VR spectatorship across two titles: Dota 2 and Counter-Strike, then address players' experiences by analyzing VR-specific esports (i.e., First2Wurst tournament for Hot Dogs, Horseshoes and Hand Grenades and the VR Master's League.) Data is derived primarily from enthusiast game journalism sources' reporting.

Our empirical work then consists of a cross-sectional, between-subjects experiment of VR esports spectatorship. Participants were asked to complete a pre-test measuring SDT predictors, presence, embodiment, and identification (Cohen, et al., 2016; Kiltani et al., 2018; Lee, 2004). Participants were

randomly assigned into two conditions (flatscreen and VR). After watching a pre-recorded match in their assigned modality, participants retake the survey to evaluate differences emerging from the modality they experienced.

Preliminary Results and Discussion: Research is ongoing, but our case study analysis reveals that journalists, spectators, and players are eager to experience VR integration and aspire to build unique experiences. This aligns with "hype cycle" theory (Dedehayir & Steinert, 2016) regarding novel innovations. However, practical deployment often requires deep technical knowledge of VR and specific games, so coverage remains focused on potential rather than actual possibilities.

Early experiment results suggest differential psychological impacts between VR and 2-D interventions. The VR condition appears more effective at enhancing participants' sense of competence and promoting attitude change, consistent with theories of immersive technology's capacity to facilitate skill development and behavioral modification. Conversely, the flatscreen condition demonstrated enhanced spatial but reduced social benefits.

Collectively, the work highlights how VR may provide a deeper and niche way of engaging in and viewing esports. Immersive media tools can provide interactive and embodied gameplay experiences, but they simultaneously face challenges to widespread deployment.

Significance: This study provides exploratory perspectives on emerging innovations' potential applications in esports and points to how game producers and fans can meaningfully design future spaces for improved spectatorship and competitive play.

Keywords: immersive media, virtual reality, presence, experiments, case study

References

- Besombes, N., & Jenny, S. E. (2023). Paradoxical Effects Health Crisis within Esports Industry: How French Esports Organizations Illuminate Perceived Revenue Growth Façade. In D. L. Andrews (Ed.), *Sport and Physical Culture in Global Pandemic Times: COVID Assemblages* (pp. 715–741). Springer Nature. https://doi.org/10.1007/978-3-031-14387-8_29
- Cohen, J., Appel, M., & Slater, M. D. (2019). Media, identity, and the self. In M. B. Oliver, A. A. Raney, & B. Jennings (Eds.), *Media Effects* (4th Edition, pp. 179–194). Routledge.
- Cote, A. C., Can, O., Foxman, M., Harris, B. C., Hansen, J., Rahman, M. W. U., & Fickle, T. (2023). The COVID season: U.s. collegiate esports programs' material challenges and opportunities during the 2020-21 pandemic. *Games and Culture*, 18(2), 229–250.

- Dedehayir, O., & Steinert, M. (2016). The hype cycle model: A review and future directions. *Technological Forecasting and Social Change*, 108, 28–41.
- Draucker, C. B., Martsof, D. S., Ross, R., & Rusk, T. B. (2007). Theoretical sampling and category development in grounded theory. *Qualitative Health Research*, 17(8), 1137–1148.
- Hancock, D. R., Algozzine, B., & Lim, J. H. (2021). *Doing case study research: A practical guide for beginning researchers*. Teachers' College Press.
- Kamen, M. (2016, July 28). Dota 2 brings virtual reality to Valve's esports battle arena - but only for spectators | WIRED. Wired. <https://www.wired.com/story/dota-2-adds-vr-theatre/>
- Kiltner, K., Groten, R., & Slater, M. (2012). The Sense of embodiment in virtual reality. *Presence: Teleoperators and Virtual Environments*, 22(1), 373–387.
- Lee, K. M. (2004). Presence , Explicated. *Communication Theory*, 14(1), 27–50.
<https://doi.org/https://doi.org/10.1111/j.1468-2885.2004.tb00302.x>
- Parry, J., & Giesbrecht, J. (2024). An analytical perspective on esports, "virtual sports," and the Olympic virtual series. In A. R. Hofmann & P. M. Camara (Eds.), *Critical Perspectives on Esports* (1st Edition, pp. 7–22). Routledge.
- Taylor, T. L. (2015). *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*. The MIT Press.
- Taylor, T. L. (2018). *Watch Me Play: Twitch and the Rise of Game Live Streaming*. Princeton University Press.
- Turkay, S., Formosa, J., Cuthbert, R., Adinolf, S., & Brown, R. A. (2021, May 6). Virtual reality esports - understanding competitive players' perceptions of location based VR esports. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. CHI '21: CHI Conference on Human Factors in Computing Systems, Yokohama Japan.
<https://doi.org/10.1145/3411764.3445073>

Yes or No? The Integration of Mobile Legends Bang Bang in Primary and Secondary Schools in Surabaya, Indonesia

Lastiko Endi Rahmantyo, Universitas Airlangga; Almira Fidela Artha, Universitas Airlangga; Viki

Ardaniah, Universitas Airlangga

Introduction: In 2024, the total number of esports integration with high schools in Indonesia is approximately 192 schools out of 14,445 (1.32%), and this number is still growing (Interactive, 2024). However, public acceptance towards esports in the curriculum varies due to their educational background. For example, social media in Indonesia has indicated that netizens oppose the plan of the Surabaya City Department of Education (SCDE) to embed Mobile Legends Bang Bang (MLBB) in primary and secondary schools. In particular, social media such as Facebook, Instagram, X, YouTube and TikTok have highlighted this program leading to varied comments. These comments are also affected by awareness on esports benefits, digital literacy, cultural aspect from social media netizens. Although in the literature, esports have brought positive impacts in education (Jenny et al. 2025; Archibald, 2024; Rahman et al., 2022), the SCDE needs to identify and characterise the netizen's comments for promoting esports in schools' curriculum.

Purpose/Research Question: This study aims at a) identifying and characterising negative comments from social media regarding the plan of SCDE on embedding esports in primary and secondary schools in Surabaya; b) proposing practices that SCDE can adopt to facilitate the promotion of esports in schools.

Methods: The data used in this study are 2334 comments from Facebook, Instagram, X, YouTube and TikTok. The number of running words analysed were 53048 and processed using keyness analysis. This technique helps to pinpoint salient lexical items indicative of specific themes, motifs, or attitudes within the analysed texts (Egbert & Biber, 2019; Scott, 2010). Moreover, it can deliver a more nuanced understanding of sentiment by considering the context in which words are used (Benrouba & Boudour, 2023; Saura et al., 2022).

Results: The results of this study "characteristically" have a negative point of view towards integrating MLBB as an extracurricular activity in primary and secondary schools in Surabaya. Within 100 keywords, 70% of them show a negative point of view (POV), followed by 21.2% showing a neutral POV and 8.8% showing a positive POV. Many comments display strong disagreement and mockery. Facebook is the platform with a strong negative POV and delivers many swear words, such as "goblok-tolol" (stupid), "rusak-ajur" (broken). Most of the netizen comments on five platforms are worried about how games affect kids' development, linking them to laziness, addiction, and a lack of discipline.

Discussion/Conclusion: In summary, the integration of esports as an extracurricular activity continues to face scepticism and rejection from society. This is not because of lack awareness about the potential benefits of esports but it can be caused by educational background and digital gap.

Significance: This study practically contributes to providing action plans for the SCDE to facilitate the promotion of esport in schools. The plans include community training, multi-stakeholder collaborations, and teacher ambassador.

Keywords: Education, Keyness Analysis, MLBB, Primary and Secondary School, Social Media

References

- Archibald, S. (2024). Examining the Impact of Esports Program on Higher Education A Systematic Literature Review [Middle Georgia State University]. https://comp.mga.edu/static/media/doctoralpapers/2024_Archibald_0917114300.pdf
- Benrouba, F., & Boudour, R. (2023). Emotional sentiment analysis of social media content for mental health safety. *Social Network Analysis and Mining*, 13(1), Article 1. <https://doi.org/10.1007/s13278-022-01000-9>
- Egbert, J., & Biber, D. (2019). Incorporating text dispersion into keyword analyses. *Corpora*, 14(1), 77–104. <https://doi.org/10.3366/cor.2019.0160>
- Interactive, P. Q. (2024, July 11). Daftar 192 Sekolah di Indonesia yang Ada Esportsnya. Team RRQ. <https://teamrrq.com/news/daftar-192-sekolah-di-indonesia-yang-ada-esportsnya>
- Jenny, S. E., Gawrysiak, J., O'Hagan, J., & Besombes, N. (2025). Esports Education. In *Routledge Handbook of Esports* (1st ed., pp. 441–465). Routledge.
- Rahman, K. A. A., Rozali, M. Z., Samah, N. A., Bakar, M. A., Ahmad, N. A., Gerijih, D. D., & Zakariah, S. H. (2022). Conceptual Model of Video Learning based on Project-Oriented Problem-Based Learning and Competency-Based Education for Technical and Vocational Education. *Journal of Technical Education and Training*, 14(1), 38–53. Scopus. <https://doi.org/10.30880/jtet.2022.14.01.004>
- Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2022). Data-driven strategies in operation management: Mining user-generated content in Twitter. *Annals of Operations Research*, 333(2), Article 2. <https://doi.org/10.1007/s10479-022-04776-3>

Scott, M. (2010). Problems in investigating keyness, or clearing the undergrowth and marking out trails....
In M. Bondi & M. Scott (Eds.), *Keyness in texts* (pp. 43–58). John Benjamins Publishing
Company. <https://doi.org/10.1075/scl.41.05sco>

Coaching the Future: University Esports as a Training Ground

Martin Paučin, University of St. Cyril and Methodius in Trnava

Introduction: As esports gains academic and institutional recognition, universities are increasingly engaging with competitive gaming not only as a student activity but also as a structured learning and development environment (Jenny et al., 2017; Reitman et al., 2020). Particularly in emerging regions such as Central and Eastern Europe, university esports teams serve as experimental spaces where digital culture intersects with education, identity formation, and leadership training (Falkenthal & Byrne, 2021). In these contexts, the lack of formal coaching infrastructure presents both a challenge and an opportunity: to design models of coach education that reflect the interdisciplinary nature of esports and its transformative potential in digital society (Nelson et al., 2013).

Purpose/Research Question: This study explores two interlinked questions:

1. How can university esports teams foster soft skills, leadership, and team culture through internal structure and coaching practices?
2. How can these insights inform the creation of a short-term, interdisciplinary coaching certification program tailored to the needs of underdeveloped esports ecosystems?

Methods: The first part of the study is based on participant observation, informal interviews, and reflective field notes collected from 2022 to 2025 within UCM TEDI Bears, the official esports team of the University of Ss. Cyril and Methodius in Trnava (Slovakia). Attention was given to the teams' internal leadership, training formats, decision-making processes, and role differentiation.

The second part outlines a curricular proposal for an intensive esports coaching program, designed in collaboration with faculty from media studies, psychology, and physiotherapy. The curriculum incorporates elements of tactical training, soft skills facilitation, ethical leadership, and health awareness (McNulty et al., 2023; Trotter et al., 2020).

Results: Preliminary findings from UCM TEDI Bears suggest that structured esports environments can contribute to the development of transferable soft skills such as strategic thinking, emotional regulation, communication, and collaborative problem solving (Musick et al., 2021; Freeman & Wohn, 2019). Informal coaching roles within the team emerged organically, often occupied by more experienced players or student-organizers, but lacked pedagogical consistency. These findings support the need for a formalized coach education pathway, especially in settings where esports is still institutionalizing. The proposed

course design addresses this gap, emphasizing cross-faculty collaboration and real-world application through scenario-based learning and peer-reviewed micro-coaching sessions.

Discussion/Conclusion: University esports teams are not only a space for gameplay but also a platform for social learning and professional development. By leveraging insights from team-level operations, it becomes possible to design coach education programs that are both scalable and locally grounded. Such initiatives can serve as models for emerging esports ecosystems where institutional resources and formal frameworks are still evolving.

Significance: This dual approach, combining team observation with curriculum design, demonstrates how university esports can function as a living lab for innovation in coaching, education, and leadership development. It offers a replicable framework for other universities or regions aiming to build esports capacity from the ground up, supporting the next generation of esports professionals in diverse and sustainable ways.

Keywords: Coaching, Curriculum Design, Esports, Soft Skills, University Teams

References

- Falkenthal, E., & Byrne, A. M. (2021). Distributed leadership in collegiate esports. *Simulation & Gaming*, 52(2), 185–203. <https://doi.org/10.1177/1046878120958750>
- Freeman, G., & Wohn, D. Y. (2019). Understanding eSports team formation and coordination. *Computer Supported Cooperative Work (CSCW)*, 28(1–2), 95–126. <https://doi.org/10.1007/s10606-017-9299-4>
- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual(ly) athletes: Where eSports fit within the definition of "sport." *Quest*, 69(1), 1–18. <https://doi.org/10.1080/00336297.2016.1144517>
- McNulty, C., Falkenthal, E., Faieta, J., Byrne, A. M., & Jenny, S. E. (2023). Physical exercise and performance in esports players: An initial systematic review. *Journal of Electronic Gaming and Esports*, 1(1), jege.2022-0014. <https://doi.org/10.1123/jege.2022-0014>
- Musick, G., Keegan, B. C., & Lutters, W. G. (2021). Leveling up teamwork in esports: Understanding team cognition in a dynamic virtual environment. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), 1–30. <https://doi.org/10.1145/3449123>

- Nelson, L., Cushion, C., & Potrac, P. (2013). Enhancing the provision of coach education: The recommendations of UK coaching practitioners. *Physical Education & Sport Pedagogy*, 18(2), 204–218. <https://doi.org/10.1080/17408989.2011.649725>
- Reitman, J. G., Anderson-Coto, M. J., Wu, M., Lee, J. S., & Steinkuehler, C. (2020). Esports research: A literature review. *Games and Culture*, 15(1), 32–50. <https://doi.org/10.1177/1555412019840892>
- Trotter, M. G., Coulter, T. J., Davis, P. A., Poulus, D. R., & Polman, R. C. J. (2020). The association between esports participation, health and physical activity behaviour. *International Journal of Environmental Research and Public Health*, 17(19), 7329. <https://doi.org/10.3390/ijerph17197329>

An Empirical Study of Game Understanding Among Young Esports Players in China: A Comparative Analysis of FPS and MOBA Players

Yu Fang, The Guangdong Province Esports Association

The rapid expansion of esports has reshaped the entertainment landscape and introduced new opportunities for understanding cognitive processes in competitive gaming. As esports continues to grow, understanding how players engage with and comprehend game mechanics across various genres, such as First-Person Shooters (FPS) and Multiplayer Online Battle Arenas (MOBA), is crucial for advancing game design and player training strategies. This study focuses on young esports players in China, examining the cognitive differences and skill transfer between FPS and MOBA players. While previous research has explored cognitive and motivational differences between players of different game genres and the phenomenon of skill transfer, gaps remain in understanding the cognitive preferences and transfer effects of players transitioning between genres, particularly among high-level players. Additionally, empirical research examining cognitive differences and cross-game understanding, particularly within the Chinese esports community, is limited. This study addresses these gaps by providing empirical evidence on the distinct game understandings of FPS and MOBA players and analyzing the mechanisms behind cognitive transfer. A critical issue in current research is the lack of empirical evidence on how players from different genres, such as FPS and MOBA, transfer their cognitive frameworks and adapt their strategies when engaging with hybrid games that combine elements from both genres. This study highlights these issues by showing significant cognitive differences: FPS players prioritize individual skill and precision, while MOBA players focus on teamwork and strategy. The study underscores the background-dependent nature of cognitive transfer in hybrid games, with players adjusting their cognitive frameworks based on their prior gaming experience. The findings contribute to theoretical understanding by presenting "game understanding" as a multi-dimensional, dynamic concept, emphasizing the interplay between player motivation, game background, and skill transfer. Practically, these results offer personalized training recommendations for game design and esports coaching, providing insights into how players adapt and transfer their cognitive strategies across different game types. The study's implications are valuable for game developers, esports coaches, and training institutions, offering guidance for future game development and player training strategies. This research contributes to the broader fields of esports, psychology, and cognitive science by addressing the empirical gap in understanding cognitive differences and skill transfer between FPS and MOBA players. It bridges interdisciplinary research in game design, psychology, education, and cognitive science, laying the groundwork for future studies on player behavior and

cognition in diverse gaming contexts. The study also opens up avenues for exploring cognitive development across various game mechanics, with potential applications in educational gaming and cross-cultural game design. Future research could expand with larger sample sizes to further investigate players' cognitive development and its influence on game design and pedagogical methods. Additionally, the methodologies used in this study have potential applications in training programs, educational games, and understanding the cross-cultural implications of game design. The findings could also inform policymakers about the cultural and psychological impacts of esports on youth, potentially guiding the industry's practices and promoting sustainable growth within esports and gaming communities.

Keywords: esports, cognitive transfer, game understanding, FPS, MOBA

References

- Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research*, 1(1), 19.
- Bavelier, D., Green, C. S., Han, D. H., Renshaw, P. F., Merzenich, M. M., & Gentile, D. A. (2011). Brains on video games. *Nature Reviews Neuroscience*, 12(12), 763–768.
- Bediou, B., Adams, D. M., Mayer, R. E., Tipton, E., Green, C. S., & Bavelier, D. (2018). Meta-analysis of action video game impact on perceptual, attentional, and cognitive skills. *Psychological Bulletin*, 144(1), 77.
- Bonnie Qu. (n.d.). Findings from the Pro Lab: Cognitive Diversity. Retrieved April 29, 2025, from <https://teamliquid.com/news/findings-from-the-pro-lab-cognitive-diversity>
- Chu, T. L., Zhang, T., & Hung, T.-M. (2018). Motivational profiles in table tennis players: Relations with performance anxiety and subjective vitality. *Journal of Sports Sciences*, 36(23), 2738–2750.
- Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.
- Gostilovich, S., Kotliar Shapirov, A., Znobishchev, A., Phan, A.-H., & Cichocki, A. (2023). Biomarkers of professional cybersportsmen: Event related potentials and cognitive tests study. *PloS One*, 18(8), e0289293–e0289293. <https://doi.org/10.1371/journal.pone.0289293>
- Mancı, E., Güdücü, Ç., Günay, E., Güvendi, G., Campbell, M., & Bediz, C. Ş. (2024). The relationship between esports game genres and cognitive performance: A comparison between first-person shooter vs. Multiplayer online battle arena games in younger adults. *Entertainment Computing*, 50, 100640.

- Nick Yee. (n.d.). Gamer Motivations: 4 Surprising Findings [Unity LevelUp]. Retrieved April 29, 2025, from <https://medium.com/ironsource-levelup/gamer-motivations-4-surprising-findings-5f705c212a93>
- Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 30, 344–360. <https://doi.org/10.1007/s11031-006-9051-8>
- Singley, M. K., & Anderson, J. R. (1989). The transfer of cognitive skill (Issue 9). Harvard University Press.
- Turkay, S., & Adinolf, S. (2018). Understanding online collectible card game players' motivations: A survey study with two games. *Proceedings of the 30th Australian Conference on Computer-Human Interaction*, 501–505.
- Woodworth, R. S., & Thorndike, E. L. (1901). The influence of improvement in one mental function upon the efficiency of other functions.(I). *Psychological Review*, 8(3), 247.
- Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior*, 9(6), 772–775.
- 房昱. (2019). FPS竞技大作引入MOBA元素的优势. *计算机与网络*, 45(01), 22–23.
- 曹跃兴. (2004). 对运动技能迁移的研究. In *SPORT SCIENCE AND TECHNOLOGY* (北京万方数据股份有限公司 基金项目;; Vol. 25, Issue 1, pp. 19–21).
- 朱新明李亦菲 %A. (2001). 迁移的四因素理论:一种解释技能之间迁移机制的整合模型. *北京师范大学学报 (社会科学版)* , 4. <https://qikan.cqvip.com/Qikan/Article/Detail?id=5365539>
- 电竞入亚 激活超级数字场景下的通行证_体育_央视网(cctv.com). (n.d.). Retrieved April 29, 2025, from <https://sports.cctv.com/2024/01/12/ARTIFb6gARK2fZdvxMild4oM240112.shtml>
- 艾瑞咨询. (2023). 2023年中国电竞行业研究报告. https://report.iresearch.cn/report_pdf.aspx?id=4200
- 首届奥林匹克电竞运动会将于2027年在利雅得举办，赛事筹备工作今年启动. (n.d.). Retrieved April 29, 2025, from <https://www.olympics.com/zh/news/inaugural-olympic-esports-games-to-be-held-in-riyadh-in-2027-road-to-the-games-to-start-this-year>

Understanding Fan's Online Toxic Behaviors in Esports: A Perspective of Situational Action Theory

Gu Yi Fei, Hong Kong Shue Yan University; Ke Xiao Bo, The Education University of Hong Kong

Introduction: By 2025, global esports is projected to generate US \$4.8 billion and attract over 640 million viewers (Naveen Kumar. 2025). Social media and streaming platforms such as Twitch, YouTube, and Douyu have seamlessly integrated fans into the esports ecosystem, fostering a continuous dialogue. This massive audience has fueled the "esports fan economy," where sponsorships, advertising, and merchandise sales rely heavily on fan engagement (Future Market Insights, 2025). However, while this economy drives substantial revenue for the esports industry, it also amplifies negative consequences, particularly online toxic fan behavior. Defined as online bullying, group flame wars, doxxing, and other malicious actions, such behavior has surged in recent years (Larkin, 2019). For instance, following T1's unexpected elimination from the 2023 League of Legends World Championship, hashtags like #FakerShouldRetire trended on Weibo and Twitter, accompanied by death threats among fans. This toxicity not only distracts players from competitions but also breeds hatred within communities, ultimately impeding the industry's growth and prosperity.

Purpose: To regulate esports communities and prevent the rise of online toxic behavior, this study aims to uncover why such behaviors emerge in esports contexts. Drawing on situational action theory (Wikström, 2004), we propose a research model to address: What are the underlying factors influencing fans' online toxic behavior, and how do these factors operate at individual and external environmental levels?

Methods: Questionnaire-based survey data will be collected from esports fans, and the research model will be tested using structural equation modeling (SEM) and fuzzy set qualitative comparative analysis (fsQCA).

Results: Although the research is ongoing, we have identified two individual-level factors: moral belief and esports team identification. External environmental factors are categorized into social (toxic fandom culture and negative social influence) and technological (online guardianship and online anonymity). We hypothesize that moral belief and online guardianship will negatively correlate with fans' online toxic behaviors, while the other factors will show positive associations. fsQCA results will complement SEM findings, revealing complex configurations among these factors.

Discussion: To elucidate the mechanisms influencing esports fans' online toxic behaviors, we developed a research model grounded in situational action theory. This study does not aim to unveil the dark side of

esports merely for exposure; in contrast, we seek to brighten its future by minimizing toxicity. To achieve this, we must first understand its origins.

Our preliminary expectations suggest that toxic behaviors stem from factors at individual and environmental levels. Therefore, we will recommend establishing a multi-stakeholder governance system. First, tournament organizers and clubs should refine their narratives, avoiding overemphasis on rivalry and extreme team identification while promoting sportsmanship. Second, platforms should improve real-name management and implement rapid-response mechanisms to enhance online guardianship. Simultaneously, a rational spectator culture should be nurtured through player role models and media guidance, fostering suitable moral beliefs among fans.

Significance: The esports fan economy is an indisputable driver of industry growth. By examining the "dark side" of toxic fan behavior, we do not undermine the fan economy's positive contributions; instead, we aim to identify and manage these issues early, reducing their impact and maximizing the fan economy's benefits. This approach will harmonize esports' commercial and social values.

Keywords: Esports Fan, Online Toxic behavior, Situational action theory, Multi-stakeholder governance

References

- Future Market Insights. (2025). eSports market trends & innovations 2025–2035. <https://www.futuremarketinsights.com/reports/esports-market>
- Larkin, B., & Fink, J. S. (2019). Toward a better understanding of fan aggression and dysfunction: The moderating role of collective narcissism. *Journal of Sport Management*, 33(2), 69–78. <https://journals.humankinetics.com/view/journals/jsm/33/2/article-p69.xml>
- Naveen Kumar. (2025). eSports viewership statistics 2025 – demographics & growth. <https://www.demandsage.com/esports-viewership-statistics/>
- Wikström, P. O. H. (2004). Crime as alternative: Towards a cross-level situational action theory of crime causation. In J. McCord (Ed.), *Beyond empiricism: Institutions and intentions in the study of crime* (pp. 1–37). Transaction. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781351322560-1/crime-alternative-towards-cross-level-situational-action-theory-crime-causation-per-olof-wikstr%C3%B6m>

Game Changer or GG? Esports Graduates' Perspectives on Career Prospects and Industry Impact

Daniel Dunn, University of Staffordshire

Introduction: Esports has transformed from a niche competitive scene in the 1980s into a multibillion-dollar industry, with market values surpassing \$1.38 million in 2023 and a projected user base of over 65 million in the U.S. alone by 2028 (Newzoo, 2022; Clement, 2023). In response, higher education institutions have launched esports degree programmes, with multiple offered in the UK (at Falmouth, Staffordshire, Chichester, and Northampton) promising transferable skills for a range of industry roles. Despite this expansion, empirical evidence on how these qualifications influence graduates' career trajectories remains scarce; creating uncertainty for prospective students, curriculum developers, and industry stakeholders.

Purpose/Research Question: This study investigates: How do esports degree holders perceive the impact of their education on their career prospects and position within the esports industry? It aims to explore graduates' perspectives on how their education has shaped their professional development and to identify opportunities for enhancing the relevance of esports degree programmes.

Methods: Adopting an interpretivist paradigm, the research employed semi-structured interviews, with five graduates from the University of Staffordshire, who have completed their studies within the last three years. Participants were recruited via purposive and snowball sampling. The audio-recorded interviews lasted 20-30 minutes, were transcribed verbatim, and analysed using Braun and Clarke's six-phase thematic analysis. Inductive coding facilitated the emergence of salient themes grounded in participants' narratives (Braun & Clarke, 2006).

Results: Five principal themes emerged:

1) Practical Experience as Core Learning

Graduates emphasised that hands-on engagement through final-year projects and internships was the most impactful factor to overall experience, providing industry connections and demonstrating competence to employers (Scott et al., 2021; Toohey, 2002).

2) Networking as a Career Catalyst

Graduates highlighted that proactive relationship building both during and beyond university served as a critical catalyst for securing job opportunities and collaborations; even when personal or situational barriers, such as scheduling conflicts, limited their engagement (Scott et al., 2021; Hillage & Pollard, 1998).

3) *Perceptions of Degree Value*

Participants acknowledged external scepticism, with degrees labelled "Mickey Mouse" (Starkey, 2019; Edmonds, 2023), but noted observable improvements in curriculum structure, facilities, and relevance over time.

4) *Evolving Career Paths*

Graduates reported that the esports industry's unpredictable career landscape motivated them to seek roles offering greater stability in adjacent sectors. Adopting a proactive, self-driven approach to career development (Daniels, 2025; Edmonds, 2023; Scott et al., 2021).

5) *Transferable Skills and Career Security*

Graduates emphasised that their esports degree cultivated a versatile skill set that aided their career mobility and security across esports and adjacent industries (Misra & Khurana, 2017; Hillage & Pollard, 1998).

Discussion/Conclusion: Analysis concludes that although theoretical content underpins foundational knowledge: practical engagement alongside proactive relationship developments, drive graduates' success. Industry scepticism indicates that formal qualifications alone won't secure professional recognition: instead, graduates must demonstrate skill application within work environments. The data reveals that career resilience depends on graduates' swiftness in redeploying transferable skill sets, in response to industry fluctuations and on sustained efforts, as insufficient dedication during study correlates with diminished professional outcomes.

Significance: This research fills a pivotal gap by incorporating graduates' first-hand perspectives. The findings indicate that embedding industry-aligned, practical modules alongside facilitated networking can enhance employability. Investment in advanced facilities and the adoption of flexible curricular pathways are necessary to maintain alignment with evolving sector demands. Finally, recruitment practices should prioritise assessment of demonstrable skills and project-based portfolios over reliance on traditional credentials.

Keywords: Practical Experience, Networking, Transferable Skills, Career Adaptability, Graduate Employability

References

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*. <https://doi.org/10.1191/1478088706qp063oa>

- Clement, J. (2023, December 13). Global eSports Market Revenue 2022 | Statista. Statista; Statista.
<https://www.statista.com/statistics/490522/global-esports-market-revenue/>
- Daniels, T. (2025, January 2). Looking Ahead: The esports industry predicts 2025. Esports Insider.
<https://esportsinsider.com/2025/01/esports-industry-predicts-2025>
- Edmonds, N. (2023, February 2). The Esports Degree Conundrum - a breakdown and some personal thoughts This topic is a personal passion of mine, if we rewind back to 2018 (baby 18-yr old Nathan) when I was able to take up esports in a full-time capacity, the same year the first esports degree in the UK was introduced at Staffordshi. LinkedIn.com.
<https://www.linkedin.com/pulse/esports-degree-conundrum-nathan-edmonds>
- Hillage, J., & Pollard, E. (1998). Employability: Developing a framework for policy analysis. ResearchGate.
https://www.researchgate.net/publication/225083565_Employability_Developing_a_framework_for_policy_analysis
- Misra, R. K., & Khurana, K. (2017). Employability Skills among Information Technology Professionals: A Literature Review. Procedia Computer Science, 122, 63–70.
<https://doi.org/10.1016/j.procs.2017.11.342>
- Newzoo. (2022, April 19). Newzoo Global Esports & Live Streaming Market Report | Free Version. Newzoo. <https://newzoo.com/resources/trend-reports/newzoo-global-esports-live-streaming-market-report-2022-free-version>
- Scott, M. J., Summerley, R., Besombes, N., Connolly, C., Gawrysiak, J., Halevi, T., Jenny, S. E., Miljanovic, M., Stange, M., Taipalus, T., & Williams, J. P. (2021). Foundations for Esports Curricula in Higher Education. Proceedings of the 2021 Working Group Reports on Innovation and Technology in Computer Science Education. <https://doi.org/10.1145/3502870.3506566>
- Starkey, A. (2019, October). How the UK's first esports degree breaks "Mickey Mouse" perceptions. Metro. <https://metro.co.uk/2019/10/01/how-the-uks-first-esports-degree-is-breaking-mickey-mouse-perceptions-theres-always-criticism-about-anything-new-10829764>
- Toohy, S. (2002). Designing Courses for Higher Education. Google Books.
https://books.google.co.uk/books?hl=en&lr=&id=QrhEBgAAQBAJ&oi=fnd&pg=PP1&dq=courses+and+curricula+in+higher+education&ots=o5u3ZhT5zm&sig=iaOml8D1-4c9nkTPDp3m4CllYnc&redir_esc=y#v=onepage&q=courses%20and%20curricula%20in%20higher%20education&f=false

Understanding Hostile Behavior in Competitive Play

Maria Ruotsalainen, University of Jyväskylä; Mikko Meriläinen, Tampere University

Introduction and purpose: Hostile behavior is a well documented phenomenon in online play and appears to be particularly prevalent in competitive play (Adachi & Willoughby, 2011; Dowsett & Jackson, 2019). Hostile conduct in competitive play consists of a repertoire of different behaviors, including for example griefing (intentionally disrupting other players) and throwing (intentionally losing games) (Kwak, Blackburn, & Han, 2015), verbal hostility such as name calling and use of slurs (Kordyaka et al., 2020), discrimination (Gray, 2012), and competitive rage (Karhulahti, 2020). What is common to these behaviors is that they have a negative effect on co-players. Research has shown that marginalized groups are in a particularly vulnerable position (Fox & Tang, 2017; Ruotsalainen & Friman, 2018).

Research has traditionally focused on the victim's perspective of hostile behavior and research focusing on the perpetrators' perspectives and experiences has been more scarce. We addressed this research gap in a research conducted in cooperation with the Non-toxic project, as understanding the different motives and mechanisms behind hostile behavior is crucial in order to develop solutions for more sustainable game and esports cultures. Non-toxic – non-discriminatory gaming culture was a Finnish nationwide project taking place 2017-2023 and coordinated by the City of Helsinki's Youth Services. In our research, the aim was to better understand the perpetrators' motives for hostile behavior. We conducted interviews (Ruotsalainen & Meriläinen, 2023) and collected online survey responses (Meriläinen & Ruotsalainen, 2024) with questions in regards to players' own hostile behavior in video games. While we did not focus on esports games or competitive play in particular, they were consistently mentioned by our interviewees and respondents. Therefore, in our presentation we examine our findings particularly in relation to competitive games and esports play.

Methods: For our first study (Ruotsalainen & Meriläinen, 2023), we interviewed 12 people in a Finnish gaming event assembly. We conducted three individual interviews and three group interviews. The interviews were transcribed and analyzed with thematic analysis (Braun & Clarke, 2021). For our second study (Meriläinen & Ruotsalainen, 2024), we conducted an online survey with 95 respondents about Finnish players' negative game conduct. The responses were analyzed with thematic analysis (Braun & Clarke, 2021).

Results and discussion: Our research suggests that there is not always a clear line between victim and perpetrators of hostile behavior, but instead players can be both. Our research furthermore highlights how there is no one reason behind hostile or negative behavior in video games, but a host of reasons (Ruotsalainen & Meriläinen, 2023; Meriläinen & Ruotsalainen, 2024)

Particularly in competitive play, affect plays an important role, as players take out their own negative feelings, such as frustration, on other players. However, players also regret their outbursts and seek ways to change or modify their own behavior (Ruotsalainen & Meriläinen, 2023; Meriläinen & Ruotsalainen, 2024). Furthermore, not all negative or hostile behavior is affectively charged, but some of it is rather normative and done out of habit. We named this kind of hostile behavior to banal toxicity (Meriläinen & Ruotsalainen, 2024). Banal toxicity is maintained by the online disinhibition effect (Suler, 2004), the game cultural norms, and perceiving games as places separated from the everyday (Meriläinen & Ruotsalainen, 2024). Banal toxicity is by no means harmless, and it is particularly harmful to marginalized groups (Meriläinen & Ruotsalainen, 2024).

Keywords: hostile behavior, toxicity, affect, norms, online disinhibition

References

- Adachi, P. J. C., & Willoughby, T. (2011). The effect of video game competition and violence on aggressive behavior: Which characteristic has the greatest influence? *Psychology of Violence*, 1(4), 259–274. <https://doi.org/10.1037/a0024908>
- Dowsett, A., & Jackson, M. (2019). The effect of violence and competition within video games on aggression. *Computers in Human Behavior*, 99, 22–27. <https://doi.org/10.1016/j.chb.2019.05.002>
- Fox, J., & Tang, W. Y. (2017). Women's experiences with general and sexual harassment in online video games: Rumination, organizational responsiveness, withdrawal, and coping strategies. *New Media & Society*, 19(8), 1290–1307. <https://doi.org/10.1177/1461444816635778>
- Gray, K. L. (2018). Gaming out online: Black lesbian identity development and community building in Xbox Live. *Journal of Lesbian Studies*, 22(3), 282–296. <https://doi.org/10.1080/10894160.2018.1384293>
- Karhulahti, V.-M. (2022). *Esport play: Anticipation, attachment, and addiction in psycho-ludic development*. Bloomsbury
- Kordyaka, B., Jahn, K., & Niehaves, B. (2020). Towards a unified theory of toxic behavior in video games. *Internet Research*, 30(4), 1081–1102. <https://doi.org/10.1108/INTR-08-2019-0343>

- Kwak, H., Blackburn, J., & Han, S. (2015). Exploring cyberbullying and other toxic behavior in team competition online games. *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (pp. 3739–3748) <https://doi.org/10.1145/2702123.2702529>
- Meriläinen, M., & Ruotsalainen, M. (2024). Online disinhibition, normative hostility, and banal toxicity: Young people's negative online gaming conduct. *Social Media+ Society*, 10(3), 20563051241274669. <https://doi.org/10.1177/20563051241274669>
- Ruotsalainen, M., & Friman, U. (2018). "There are no women and they all play Mercy": Understanding and explaining (the lack of) women's presence in esports and competitive gaming. *DiGRA Nordic '18: Proceedings of 2018 International DiGRANordic Conference*. http://www.digra.org/wp-content/uploads/digital-library/DiGRA_Nordic_2018_paper_31.pdf
- Ruotsalainen, M., & Meriläinen, M. (2023). Young video game players' self-identified toxic gaming behaviour: An interview study. *Eludamos: Journal for Computer Game Culture*, 14(1), 147-173. <https://doi.org/10.7557/23.7270>
- Suler J. (2004). The online disinhibition effect. *CyberPsychology & Behavior*, 7(3), 321–326. <https://doi.org/10.1089/1094931041291295>

What is the Value of an Esports Legacy?

Josh Jarrett, University of Staffordshire; David Cumming, University of the Arts London

Identifying the legacy of sports events has long been a complex and contested question. Prospective host destinations bid for major sporting events by presenting a vision of a lasting regional legacy which persists long after the event has concluded. For example, the 2012 London Olympics promoted a legacy of urban renewal for the post-industrial East London area as well as levelling sporting opportunities for underrepresented participants (Davies, 2016). As scholars of sports and culture have discussed at length though, how these legacies eventually look and feel to the public is inconsistent, particularly when the event has concluded and funding subsides (Holt and Ruta, 2015). Although 'interest in sport event legacies has grown exponentially' since the early 2000s (Thomson et al., 2019), the legacies of esports events remain underexplored.

This paper aims to open a critical discussion surrounding how the notion of legacy is interpreted and mobilised in esports. In contrast to traditional sports, the legacy of an esports event manifests less in stadia and more in the platform economies of the digital games themselves. Drawing on examples from the newly established League of Legends (LoL) 'Hall of Legends' as a case study, we initiate a synthesis of key concepts from sports and digital game studies which converge within esports. Namely, how notions of legacy are mobilised by publishers to give permanence, continuity, and additional surplus value to their games-as-a-service models.

In May 2024, Riot Games made an announcement celebrating the legendary South Korean LoL player Faker by inducting him into a newly established 'Hall of Legends' and releasing the most expensive microtransaction ever seen in the game's 16-year life for USD 500 (Stubbs, 2024). This microtransaction was a themed skin for the in-game champion 'Ahri', who Faker is known for playing, but due to the extreme cost, the announcement was met with widespread frustration and discontent by players. For a pioneering 'fair' free-to-play game such as LoL that operates on an affective economy of de commodisation and reciprocity (Enverga, 2021; Jarrett, 2021), the commemorative Faker skin represents a deliberate shift in Riot Games' monetisation strategy towards a broader legacy-building endeavour. In an esports landscape where titles now have histories measured in decades, the in-game valorisation of legacy affirms control over players' affective investments (Van Ryn et al., 2018) while suppressing new competitors without an established foothold (Kerr, 2017: 70; Wong and Meng-Lewis, 2023).

By analysing the in-game imagery associated with the 'Hall of Legends' skins, we observe the creation of a 'site of memory production' (Rabinovitch-Fox, 2023) for players and fans which reconstructs past moments for sustained celebration. The type of legacy being mobilised by Riot Games here differs in important ways from the more infrastructural and regional legacies often felt by publics when sporting mega events take place. LoL's platform-oriented legacy repackages key esports moments as valorised units of consumption, evoking what Thorhauge (2015: 3) describes as publishers' ongoing 'intense experimentation with virtual economies and markets'. What is being experimented with here is the leveraging of fans' affective investment in players who embody an idolised competitive playing career. Ultimately, these insights offer a new line of enquiry within sports and esports research, which looks beyond conventional notions of sporting legacy and draws attention to dynamics of publisher power.

Keywords: Legacy, platform studies, microtransactions, value, esports publishers

References

- Davies, L. E. (2016). Beyond the Games: regeneration legacies and London 2012. In *Leisure, Culture and the Olympic Games* (pp. 47-75). Routledge.
- Holt, R., & Ruta, D. (2015). *Routledge handbook of sport and legacy*. Taylor & Francis.
- Kerr, A. (2017). *Global games: Production, circulation and policy in the networked era*. Routledge: New York.
- Rabinovitch-Fox, E. (2023). Clothing as a Site of Memory: The Uses and Legacy of Suffrage Fashion. *Histoire sociale/Social History*, 56(116), 391-415.
- Stubbs, M. (2024). 'League Of Legends' Fans Outraged Over \$500 Faker Skin Bundle, Forbes, March 2024. Available at: <https://www.forbes.com/sites/mikestubbs/2024/05/28/league-of-legends-fans-outraged-over-500-faker-skin-bundle/>
- Thomson, A., Cuskelly, G., Toohey, K., Kennelly, M., Burton, P., & Fredline, L. (2019). Sport event legacy: A systematic quantitative review of literature. *Sport management review*, 22(3), 295-321.
- Thorhauge, A. M. (2023). *Games in the platform economy: steam's tangled markets*. Policy Press.
- Van Ryn, L., Apperley, T., & Clemens, J. (2018). Avatar economies: affective investment from game to platform. *New Review of Hypermedia and Multimedia*, 24(4), 291-306.
- Wong, D., & Meng-Lewis, Y. (2023). Esports: an exploration of the advancing esports landscape, actors and interorganisational relationships. *Sport in society*, 26(6), 943-969.

From Trash Talk to Threats: Rethinking Platform Accountability for Toxicity in Online Games

Thomas Burelli and Gabriel Cadieux, University of Ottawa

This presentation critically examines how video game companies address the pervasive issue of online toxicity, revealing a striking disconnect between the seriousness of harmful behaviours and the moderation practices employed by major platforms. Drawing from legal frameworks, behavioural analysis, and platform governance, the talk explores the limits of current moderation systems and highlights the normative and operational deficiencies of industry responses.

Toxicity in online gaming encompasses a wide spectrum of conduct, from trash talk and misinformation to more extreme behaviours such as death threats, sexual harassment, doxxing, and swatting. While some of these actions fall outside legal sanction, others are clearly criminal under national laws. Yet enforcement by platforms remains inconsistent and often disproportionate: players are frequently banned for minor infractions such as leaving a game, while those issuing threats may face minimal or temporary consequences.

The presentation unpacks the structural and social drivers of toxic behaviour: the design of competitive environments, the anonymity of online interactions, and platform cultures that normalize or trivialize harmful conduct.

Legally, while criminal provisions could be invoked, their application in online gaming contexts remains rare due to jurisdictional complexities, limited cooperation between platforms and public authorities, and the private nature of digital spaces. As a result, the burden of managing toxicity is effectively outsourced to players themselves, while companies maintain control over opaque enforcement mechanisms.

The presentation concludes by outlining concrete proposals to address these issues. These include stronger and more transparent implementation of community standards, institutional collaboration between platforms and law enforcement, and the introduction of public accountability mechanisms – such as a "wall of shame" tracking platforms' failures to act on serious violations. The broader objective is to move beyond the rhetoric of community management and toward a model of platform responsibility that refuses to normalize verbal violence as a cost of online interaction.

Keywords: missing

References

- Kowert, R., & Kaye, L. K. (2018). Video games are not socially isolating. In C. J. Ferguson (Ed.). *Video game influences on aggression, cognition, and attention* (pp. 185-195). Cham: Springer International Publishing.
- Kowert, R. (2020). Dark participation in games. *Frontiers in Psychology, 11*, 598947. <https://doi.org/10.3389/fpsyg.2020.598947>
- Huuskonen, J. (2022). *Toxicity and the hidden dangers of shoddy moderation*. www.gamedeveloper.com/blogs/toxicity-and-the-hidden-dangers-of-shoddy-moderation
- Brinks, M. (2023). *12 Games That can't escape their own aggressively toxic communities*. www.ranker.com/list/video-games-with-toxic-communities/melissa-brinks
- Cook, C: & Kowert, R. (2021). *Toxic waste removal: Toxicity in games and the perceived effectiveness of reporting*. 70th Annual ICA Conference: Open Communication 3.
- Cary, L. A., Axt, J., & Chasteen, A. L. (2020). The interplay of individual differences, norms, and group identification in predicting prejudiced behavior in online video game interactions. *Journal of Applied Social Psychology, 50*(11), 623-637. <https://doi.org/10.1111/jasp.12700>

Playing with Privacy: A Critical Analysis of Data Collection in the Video Game Industry

Thomas Burelli and Gabriel Cadieux, University of Ottawa

This presentation explores the opaque and often intrusive nature of privacy policies in video games, particularly those targeting mobile and online platforms. It addresses a simple yet unsettling question: do users, especially parents, truly understand what they consent to when they accept these policies?

Video games collect vast amounts of personal data: email addresses, IP addresses, device types, geolocation, game progression, usage statistics, and—through social media integrations—even a player's photograph, date of birth, or list of friends. This data is obtained through three main channels: voluntarily provided information, data automatically collected through gameplay, and information harvested from third-party sources. Once collected, this data is used for various stated purposes—from account creation and customer service to fraud prevention and analytics. However, platforms also claim broad discretionary use under vaguely defined "legitimate interests," including behavioral profiling, targeted marketing, and business development strategies.

Critically, most users (and even fewer parents) are aware of the full extent of this surveillance, let alone the identity of the entities involved in data processing. User information is routinely shared with subsidiaries, analytics firms, advertisers, and in some cases, public authorities. The presentation draws attention to the transnational flow of personal data—often to jurisdictions with weaker privacy protections—raising pressing concerns about legal accountability and enforcement.

Although legal rights such as access, rectification, erasure, and withdrawal of consent are guaranteed in theory, in practice, exercising these rights is extremely difficult. Platforms often hide behind burdensome procedures, obscure contact points, or restrictive clauses that limit jurisdiction and require binding arbitration, frequently in foreign countries. Some policies explicitly exclude collective legal action or provide for sanctions in case of "bad faith" arbitration claims—mechanisms that further discourage users from seeking redress.

This presentation not only diagnoses the problem but also proposes a set of legal and policy responses. These include declaring abusive clauses null and void, enforcing the application of national data protection laws, filing complaints with oversight bodies such as privacy commissioners, and regulating the form and content of privacy policies to make them truly accessible. Beyond legal avenues, it also advocates for public pressure on gaming platforms to adopt responsible and transparent data practices.

By exposing the gap between the appearance of consent and the actual implications of these policies, the presentation challenges the normalization of opaque data extraction in digital play. In short, this is not merely a privacy issue—it is a matter of power, asymmetry, and the systematic erosion of user autonomy in one of the most pervasive cultural industries of our time.

Keywords: Personal Data, Law, Consent, Privacy

References

- Alha, K. (2020). The Rise of Free-to-Play: How the revenue model changed games and playing. (Tampere University Dissertations - Tampereen yliopiston väitöskirjat; Vol. 345). <http://urn.fi/URN:ISBN:978-952-03-1774-4>.
- Alomar, N. et S. Egelman (2022). Developers Say the darnedest things: Privacy compliance processes followed by developers of child-directed apps. *Proceedings on Privacy Enhancing Technologies*, 4(2022), 24.
- Bonenfant, M. A. Dumont, & L.I. Lafrance St-Martin (2023). Being played in everyday life: Massive data collection on mobile games as part of ludocapitalist surveillance dispositif. In Cocq, C., Enbom, J., Gelfgren, S., & Samuelsson, L. (Eds.), *Everyday Life in the Culture of Surveillance*, Nordicom.
- Canadian Centre for Child Protection. (2022). *Reviewing the enforcement of app age ratings in Apple's app store and Google Play*. [Rapport]. <https://protectchildren.ca/en/resources-research/app-age-ratings-report/>
- Göksu, İ., Aslan, A., & Turgut, Y. E. (2020). Evaluation of mobile games in the context of content: What do children face when playing mobile games? *E-Learning and Digital Media*, 17(5), 388-407.
- Grimes, S. M. (2007). Terms of service, terms of play in children's online gaming. In J.P. Williams & J. Heide Smith (Eds.) *The player's realm: Studies on the culture of video games and gaming* (pp. 33-55). Jefferson, NC: McFarland Press.
- Okoyomon, E., Samarin, N., Wijesekera, P., Elazari Bar On, A., Vallina-Rodriguez, N., Reyes, I., Feal, Á., & Egelman, S. (2019). On the ridiculousness of notice and consent: Contradictions in app privacy policies. Workshop on Technology and Consumer Protection (ConPro 2019). In Conjunction with the 39th IEEE Symposium on Security and Privacy.
- Reyes, I., Wijesekera, P., Reardon, J., On, A. E. B., Razaghpanah, A., Vallina-Rodriguez, N., & Egelman, S. (2018). "Won't somebody think of the children?" Examining COPPA compliance at scale.

Proceedings on Privacy Enhancing Technologies, 2018(3), 63–83. <https://doi.org/10.1515/popets-2018-0021>

Play by the Rules: An Overview of Ethics and Significance in Esports

Jean Chance, Florida Institute of Technology

Introduction: Ethics are a critical part of day to day lives. Acting in accordance with ethics allows people to make decisions leading to positive impacts. A lack of understanding of ethics can result in unfavorable outcomes such as tarnished reputation, lack of ability to obtain the trust of others, and limited professional opportunities.

Purpose/Research Question: The primary purpose of this literature review was to identify gaps within currently published Ethic Codes to assist in the development of an Ethics Code for Florida Tech Esports.

Methods: The codes of conduct and ethic codes were reviewed for the five competitive titles offered through Esports at Florida Institute of Technology, 20 traditional sports, and seven governing bodies. These codes of conduct and ethical codes were found online via the organization website. Each code of conduct was reviewed for the following inclusions: when it was last updated, who the code was applicable to, if cheating and consequences of cheating was addressed, if misconduct and consequences of misconduct were addressed, and if, how, and when to report violations was addressed.

Results: Out of the five competitive titles, all five codes of conduct were applicable to players, while two codes of conduct were applicable to coaches, team staff, and organization members. Out of the 20 codes of conduct for traditional sports, 11 code of conduct addressed players, six addressed coaches, and three addressed fans. Three of the five competitive titles at Florida Tech addressed both cheating and misconduct, while one addressed cheating and one addressed misconduct. The results indicated that one of the 20 traditional sports codes of conduct addressed cheating, 14 addressed misconduct, and one addressed both cheating and misconduct. Three did not include information regarding cheating or misconduct, and one code of conduct was not available for public information. Of the seven governing bodies for sports, behavior analysis, and esports reviewed, one governing body did not have a developed code of conduct, two addressed misconduct, two addressed both misconduct and cheating, and one did not address misconduct or cheating. The most common behaviors seen throughout the literature include respect, integrity, teamwork, and discrimination.

Discussion/Conclusion: The findings indicate an inconsistent pattern of individuals held accountable for adhering to ethical standards. While all five of the Esports codes of conduct reviewed and 11 of the traditional sports codes of conduct covered players, approximately 25% of the codes of conduct for traditional sports did not indicate that athletes were required to abide by the code of conduct. The lack of

athlete inclusion in all codes of conduct is problematic, and emphasizes the larger scale insinuation that talent is prioritized over adherence to the rules.

Significance: These findings directly influenced the inclusion of rules and regulations in the development of Florida Tech's Esports Code of Ethics. By identifying limitations in current literature, an inclusive and all-encompassing code of conduct that meets and adheres to the specific needs of the organization, covers the wide range of players, coaches, organizational leadership, and staff working within the organization was developed. Through extensive research and assessment of relevance, Florida Tech Esports is setting the standards for accountability of all people involved through the development of a research based code of conduct.

Keywords: ethics, cheating and misconduct in sports, code of conduct, behavior analysis, collegiate esports

References

- American Motorcyclist Association. (2025). 2025 AMA racing rulebook (pp. 1–50).
https://americanmotorcyclist.com/wp-content/uploads/2025/06/25_AMA_Racing_Rulebook-Pages_FINAL_0609.pdf
- Association for Applied Sport Psychology. (n.d.). Ethical principles and standards: AASP ethics code.
<https://appliedsportpsych.org/about/ethics/ethics-code/>
- Behavior Analyst Certification Board. (2025). Board Certified Behavior Analyst (BCBA) handbook (Updated March 2025). https://www.bacb.com/wp-content/uploads/2022/01/BCBAHandbook_250304-3.pdf
- Blizzard Entertainment. (n.d.). Blizzard's in-game code of conduct (Article ID 42673).
<https://us.battle.net/support/en/article/42673>
- Formula 1. (2023). Formula 1 code of conduct (7 December 2023).
https://media.formula1.com/image/upload/v1701969109/content/dam/fom-website/manual/Misc/fl_code_of_conduct/F1_Code_of_Conduct_7_December_2023.pdf
- Major League Baseball. (n.d.). MLB player resource center: Player policies. <https://www.mlb.com/player-resource-center/player-policies>
- Major League Cricket. (n.d.). Policies & guidelines. <https://www.majorleaguecricket.com/policies>
- Major League Soccer. (n.d.). Fan code of conduct. <https://www.mlssoccer.com/about/fan-code-of-conduct/>

- National Basketball Association. (n.d.). NBA fan code of conduct. <https://www.nba.com/nba-fan-code-of-conduct>
- National Collegiate Athletic Association. (2016, July 6). The 16 principles for conduct of intercollegiate athletics. <https://www.ncaa.org/sports/2016/7/6/the-16-principles-for-conduct-of-intercollegiate-athletics.aspx>
- National Esports Collegiate Conference. (n.d.). Terms of service. <https://necc.gg/pages/terms-of-service>
- National Football League Football Operations. (n.d.). NFL rules compliance. <https://operations.nfl.com/inside-football-ops/rules-enforcement/nfl-rules-compliance/>
- National Hockey League. (n.d.). NHL fan code of conduct. <https://www.nhl.com/fans/fan-code-of-conduct>
- Nintendo of America. (n.d.). Nintendo of America community guidelines. <https://www.nintendo.com/us/community-guidelines/>
- Professional Golfers' Association. (2021). Part 5: Code of ethics & disciplinary procedures (Updated June 2021). <https://www.pga.info/media/4188/part-5-code-of-ethics-and-disciplinary-procedures-updated-june-2021.pdf>
- Psyonix. (2020, October 23). Rocket League code of conduct. <https://www.rocketleague.com/en/news/rocket-league-code-of-conduct>
- Riot Games. (2020, June 2). Valorant community code. <https://playvalorant.com/en-us/news/announcements/valorant-community-code/>
- Riot Games. (2020, September 2). League of Legends code of conduct. <https://www.leagueoflegends.com/en-us/event/league-of-legends-code-of-conduct/>
- U.S. Center for SafeSport. (2024). SafeSport code for the U.S. Olympic and Paralympic Movement. https://uscenterforsafesport.org/wp-content/uploads/2023/03/2024_SafeSportCode-_073124_v3-A-.pdf
- U.S. Figure Skating. (2023, May 16). Code of conduct (GR 1.02, from the 2024–25 rulebook). <https://www.usfigureskating.org/sites/default/files/media-files/CodeofConduct.pdf>
- United States Swimming Association. (2022). USA Swimming code of conduct (Article 304, 2022 Rules & Regulations). https://www.usaswimming.org/docs/default-source/governance/governance-lsc-website/rules_policies/2022-code-of-conduct.pdf
- United States Tennis Association. (2015). The code: The players' guide to fair play and the unwritten rules of tennis. https://www.usta.com/content/dam/usta/pdfs/2015_Code.pdf

USA Cycling. (2024, November 1). USA Cycling code of conduct. <https://usacycling.org/about-us/governance/code-conduct>

USA Gymnastics. (2023, January). Code of ethical conduct.

https://static.usagym.org/PDFs/About%20USA%20Gymnastics/code_ethical_conduct.pdf

USA Track & Field. (n.d.). USATF Safe Sport handbook. <https://www.usatf.org/safe-sport/usatf-safe-sport-handbook>

USA Lacrosse. (n.d.). Code of ethics. <https://www.usalacrosse.com/code-ethics>

World Boxing. (2025). World Boxing code of ethics (Version 2, issued February 2025).

<https://worldboxing.org/wp-content/uploads/2025/02/World-Boxing-Code-of-Ethics-FINAL.pdf>

World Wrestling Entertainment, Inc. (2023). Code of business conduct (Revised June 2023).

https://s202.q4cdn.com/437702206/files/doc_downloads/2025/04/WWE-Code-of-Conduct_June-2023.pdf

Whose Game Is It Anyway? Data Ownership, Protection, Ethics and Current Practises in Grassroots Esports Performance Analysis

Patryk Białowós, S.E.A. Dragons Esports Ltd

Introduction: Grassroots esports clubs increasingly rely on performance analysis workflows involving match recordings, in game statistics, and team communication reviews. Yet, the governance of such data is inconsistent and often informal. Questions of ownership, protection, structure, and ethical use remain unresolved, particularly in semi professional and amateur contexts where legal structures and professional safeguarding standards are minimal (Funk et al., 2018; Holden et al., 2017). Without clear frameworks, players risk losing control of personal and performance data, while clubs face reputational, operational, and compliance risks (Țătaru & Țătaru, 2020).

Purpose / Research Question: This study asks: To what extent are current data ownership, protection, and ethical practices in grassroots esports fit for purpose, and how can performance analysis teams ethically manage and share player data?

Methods: A mixed methods approach will be used:

- Policy review - Analysis of 5-8 existing data protection, privacy, and content usage policies from grassroots/semi professional esports clubs (Jenny et al., 2017).
- Semi structured interviews - Conducted with players, analysts, and managers (18+) to explore their understanding, expectations, and lived experiences regarding data rights and ethical usage.
- Thematic analysis - Identification of recurring patterns, gaps, and examples of best practice across both datasets (Braun & Clarke, 2006).

Results (anticipated): The study expects to find:

- Limited formalised policy.
- Low player awareness of data rights and consent processes.
- Inconsistent practices in storage, access, and retention of analysis data.

Some clubs may have partial frameworks adapted from traditional sports, but these are often poorly implemented in digital grassroots environments.

Discussion / Conclusion: Findings will be interpreted to highlight the operational and ethical risks posed by unclear data governance in grassroots esports. Emphasis will be placed on how these risks intersect with performance analysis workflows, including issues around publishing clips, archiving footage, and retaining player data after departures.

Significance: The study will produce a Best Practice Guide for ethical data governance in grassroots esports performance analysis. This will provide practical recommendations for:

- Consent processes.
- Data ownership agreements.
- Secure storage and responsible sharing protocols.

The aim is to help grassroots organisations align with professional standards, strengthen player club trust, and maintain competitive integrity in an increasingly data driven esports ecosystem.

Keywords: competitive integrity, data protection, ethics, performance analysis, amateur esports

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Funk, D. C., Pizzo, A. D., & Baker, B. J. (2018). eSport management: Embracing eSport education and research opportunities. *Sport Management Review*, 21(1), 7–13. <https://doi.org/10.1016/j.smr.2017.07.008>
- Holden, J. T., Rodenberg, R. M., & Kaburakis, A. (2017). Esports: Children, stimulants and video-gaming-induced toxicity. *Gaming Law Review*, 21(8), 575–579. <https://doi.org/10.1089/glr2.2017.21813>
- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual(ly) athletes: Where eSports fit within the definition of "sport." *Quest*, 69(1), 1–18. <https://doi.org/10.1080/00336297.2016.1144517>
- Țătaru, S. R., & Țătaru, I. T. (2020). Privacy & data protection in sport industry. *Sport and Society*, 20(1), 12. <https://doi.org/10.36836/2020/1/12>

Increasing Productive Communication Statements in Esports Players

Victoria German, ABA Technologies

In League of Legends (LoL) – a fast-paced ad hoc dynamic team-based multiplayer online battle arena game– constant communication between team members is crucial. The game limits each player's access to information, such as opponent actions, available resources, and view of the map, making communication a key component of strategic coordination (Lima et al., 2021). Previous nonexperimental studies in LoL have found that word frequency or rate, content and speech patterns are an indicator of team cohesion and therefore, of performance in esports, member satisfaction, and likelihood of players staying in the same team (Freeman & Wohn, 2019; Marlow et al., 2017; Tan et al., 2022). However, esports research has not directly evaluated a behavioral intervention on improving communication in LoL, and the studies that examine communication in esports settings rarely include professional or collegiate players. This study seeks to expand on that work by providing a behavior-analytic framework to objectively measure and improve communication in the ecology of a collegiate LoL team.

Thus, this study evaluated a behavior-analytic coaching intervention to increase in-game communicative responses in a Junior Varsity collegiate LoL team at a southeastern U.S. university. Targeted responses included callouts, requests, and praise, vocal and text-based (chat and pings). The intervention consisted of task clarification, goal setting, and individualized verbal and graphic feedback delivered by the researcher. A multiple baseline across participants single-subject design was used and data analysis involved visual inspection of the data plotted on a graph. Frequency data were collected during baseline (traditional coaching) and intervention phases and converted to response rate (per minute). A goal line, derived from the average communication rate of a varsity LoL team, served as the visual benchmark. Following the intervention, players completed a social validity questionnaire using a 5-point Likert scale. The results showed increases in productive communication statements for all four esports players with two exceeding the goal set. Even though the other two did not, their communication rate increased from baseline. All participants rated the intervention as acceptable and helpful for improving communication. In conclusion, this study demonstrates that esports communication can be improved efficiently and with minimal disruption through rapid, remote interventions. This work highlights the effectiveness of embedding behavior-analytic methods in performance-based settings and paves the way for expanding empirical coaching strategies in competitive esports. Future research should evaluate if the increase in

productive communication increased the likelihood of achieving the game objectives, or if it reduced any toxic behaviors (e.g., insults), which has been a reported concern in LoL.

Keywords: Coaching, competitive gaming, multiplayer online game, communication, League of Legends

References

- Freeman, G., & Wohn, D. Y. (2019). Understanding esports team formation and coordination. *Computer Supported Cooperative Work (CSCW)*, 28(1-2), 95–126. doi.org/10.1007/s10606-017-9299-4
- Marlow, S. L., Lacerenza, C. N., & Salas, E. (2017). Communication in virtual teams: A conceptual framework and research agenda. *Human Resource Management Review*, 27(4), 575–589. <https://doi.org/10.1016/j.hrmr.2016.12.005>
- Lima, Y., Lipovaya, V., Barbosa, C. E., Grillo, P., Emerick, M., Duarte, F., & de Souza, J. M. (2021). Collaboration challenges of professional esports players in Brazil. *Proceedings of SBGames*.
- Tan, E. T. S., Rogers, R., Nacke, L. E., Drachen, A., & Wade, A. (2022). Communication sequences indicate team cohesion: A mixed-methods study of ad hoc league of legends teams. *Proceedings of the ACM on Human-Computer Interaction*, 6(CHI PLAY), 1–27. <https://doi.org/10.1145/3549488>

Evolution of the Media Representation of Video Game Players Before, During, and After the Pandemic in Major Quebec Newspapers

Emy Chapleau, Université du Québec à Trois-Rivières

Introduction: The media representation of video game players oscillates between stigmatization, technological fascination, and cultural recognition. While esports and video games are often associated with certain psychosocial risks, such as addiction or violence (Brunborg et al., 2013), they also contribute to the development of social skills and psychological well-being (Granic et al., 2014). During the pandemic, video game use surged, prompting both concern and positive reassessment (Barr & Copeland-Stewart, 2022).

Purpose/Research: Media framing, defined as the way media structure issues and influence public perception (Entman, 1993), plays a crucial role in constructing the social legitimacy of video games. Studies have shown that alarmist representations can exacerbate stigma and negatively affect mental health (Ogbodo et al., 2020). Between 2019 and 2020, COVID-19 acted as a catalyst that clarified and amplified existing media narratives surrounding video games (Brückner, 2024). However, few studies have explored the evolution of such framing over an extended period and through a comparative lens. This project aims to investigate how media discourse around video game players evolved in Quebec and France before, during, and after the pandemic.

Methods: The data will be drawn from a corpora of print media articles published in major Quebec and French daily newspapers. The study period will be divided into three equal phases: Pre-pandemic (December 23, 2017 – March 12, 2020), Pandemic (March 13, 2020 – June 1, 2022), Post-pandemic (June 2, 2022 – August 20, 2024), each lasting exactly 810 days. This temporal segmentation allows for a rigorous comparison across equidistant periods.

The analysis will be conducted in two stages. First, sentiment analysis (lexical, using the *syuzhet* package in R) will assess the emotional polarity of the texts and track changes in media tone over time. Second, correspondence analysis will be performed on a lexical contingency table crossing the most frequent words in the corpora with the three time periods. This will help extract the characteristic semantic associations of each period. This method enables visual representation of the relationships between periods and the vocabulary used, allowing us to detect lexical or ideological shifts.

Results: We found that there is an evolution among the media representation before and after covid, mostly about a more positive discourse.

Discussion/Conclusion: By combining sentiment analysis and correspondence analysis, this project aims to offer a nuanced understanding of the discursive dynamics surrounding video game players. It will help contextualize how the pandemic influenced the construction of video gaming in media narratives, while also revealing cross-cultural framing differences between France and Quebec.

Significance: This study will provide valuable insights for media studies, digital culture research, and public health communication. It will also contribute to the broader discussion on stigma, media influence, and the evolving legitimacy of gaming in contemporary societies.

Keywords: eSport, Video game, media representation, pandemic, Covid-19

References

- Barr, M., & Copeland-Stewart, A. (2022). Playing Video Games During the COVID-19 Pandemic and Effects on Players' Well-Being. *Games and Culture*, 17(1), 122-139. <https://doi.org/10.1177/15554120211017036>
- Brückner, S. (2024). The Influence of COVID-19 on Newspaper Discourses on Video Games in Cross-cultural Perspective': Between Safe Social Spaces and Video Game Addiction (p. 129-154). <https://doi.org/10.5040/9798765110270.ch-006>
- Brunborg, G. S., Mentzoni, R. A., Melkevik, O. R., Torsheim, T., Samdal, O., Hetland, J., Andreassen, C. S., & Palleson, S. (2013). Gaming Addiction, Gaming Engagement, and Psychological Health Complaints Among Norwegian Adolescents. *Media Psychology*, 16(1), 115-128. <https://doi.org/10.1080/15213269.2012.756374>
- Entman, R. (1993). Framing': Toward Clarification of A Fractured Paradigm. *The Journal of Communication*, 43, 51-58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66-78. <https://doi.org/10.1037/a0034857>
- Ogbodo, J. N., Onwe, E. C., Chukwu, J., Nwasum, C. J., Nwakpu, E. S., Nwankwo, S. U., Nwamini, S., Elem, S., & Iroabuchi Ogbaeja, N. (2020). Communicating health crisis': A content analysis of global media framing of COVID-19. *Health Promotion Perspectives*, 10(3), 257-269. <https://doi.org/10.34172/hpp.2020.40>

Prepare. – Academic Esports as an Inclusive and Adapted Educational Approach

Maj-Elin Milla Heigre, Prepare. Pedagogikk

Introduction (background/context): Prepare. is an already piloted and tested inclusive educational concept that integrates academic esports (video gaming) as a tailored teaching method. Developed by teacher Maj-Elin Milla Heigre in collaboration with Associate Professor Rune Andersen at the University of Agder (UiA), the concept reimagines education by leveraging video games as a familiar and safe arena for student learning and mastery. Through flipped classroom methodology, theoretical knowledge is directly linked to practical gaming activities. The approach allows for adaptation to individual needs across subjects and fundamental competencies, and it has been piloted in Lyngdal municipality during the 2023/24 school year, in collaboration with UiA esports students.

Purpose/Research Question (objective): The aim of this study is to investigate the effects of the Prepare. model on educational engagement and inclusion, particularly among students requiring adapted learning. The central research questions are: (1) How can academic esports increase students' motivation, sense of mastery, and school belonging? (2) In what ways can Prepare. ease educational transitions and prevent school dropout and long-term exclusion from education and employment?

Methods (approach; data collection/analysis): A mixed-methods approach will be employed. Quantitative data will be collected through surveys measuring student engagement, attendance, and academic progress before and after implementation. Qualitative methods include interviews with students, teachers, and esports instructors, as well as classroom observations. The research is being developed in collaboration with the University of Bergen and the gaming research group Spillforsk. A digital skills log is under development to track individual learning outcomes linked to game-based tasks and competencies.

Results (key findings): Preliminary observations from the 2023/24 pilot at Lyngdal Lower Secondary School indicate increased student attendance, improved social interaction, and heightened engagement—particularly among students with social, academic, or motivational challenges. Academic esports were also found to benefit high-performing students by offering deeper subject immersion and new skill development in coding, teamwork, strategic thinking, and language. The concept supports differentiated learning and creates positive assessment environments through known arenas of mastery.

Discussion/Conclusion (interpret findings): The Prepare. model appears to offer a promising, proactive intervention in addressing school exclusion by meeting students where they are—both academically and

socially. It aligns well with the Norwegian Education Act's (§9-5, §9-6, §11-1) mandates on facilitating smoother transitions and ensuring adapted learning (Udir, 2024). By starting early—from middle primary through upper secondary and even adult education—the model emphasizes long-term educational participation and career relevance. The combination of academic, social, and therapeutic elements strengthens students' overall capacity to stay in school and make informed educational choices.

Significance (practical implications): Prepare. has the potential to be scaled as a nationwide educational strategy to combat social exclusion. With approximately 23.4% of individuals aged 20–66 in Agder experiencing exclusion from work or education (Fædrelandsvennen, 2024; NAV, 2024), early and targeted interventions like Prepare. could significantly reduce dropout rates and increase school engagement. The concept's integration into the Levekårsprogrammet, in cooperation with Norce, UiA, UiB, and local municipalities, highlights its relevance as a cross-sectoral inclusion tool. A digital competence bank and skills-tracking solution are currently in development to support educators and students alike.

Keywords: academic esports, inclusive education, dropout prevention, adapted teaching, digital learning

References

- Fædrelandsvennen. (2024, August 9). Agder is worst in the country – should surprise no one. <https://www.fvn.no/nyheter/lokalt/i/8qprw2/agder-er-versting-boer-ikke-overraske-noen>
- NAV. (2024). Utenforskap til nav.no2 [PDF]. https://www.nav.no/_/attachment/inline/45b8e562-af22-4120-b9bd-3fe814fa3dfa:bf7e0652131cd6e96a9f7887c528ce6bd433e774/Utenforskap%20til%20navno2.pdf
- Utdanningsdirektoratet. (2024). What's new in the new Education Act [Web page]. Norwegian Directorate for Education and Training. <https://www.udir.no/regelverk-og-tilsyn/skole-og-opplaring/ny-opplaringslov/hva-er-nytt-i-ny-opplaringslov/hva-er-nytt-i-ny-opplaringslov/>
- Andersen, R., & Scholz, T. M. (n.d.). Hva er greia med e-sport? [What's the deal with esports?]. University of Agder.

E-sports and Social Sustainability: A Private Law Approach

Emanuela Maio, University of Parma (Italy)

Introduction: UNICEF's Gaming and the Metaverse highlight how gaming has become a major economic force, with revenues soaring to \$198.4 billion by 2021. This trend is expected to continue, reaching \$279.4 billion by 2025. Such growth shows that esports aren't just games—they carry real-world impact and deserve proper legal consideration.

Purpose / Research Questions: This paper examines the interaction between the virtual and real worlds within the esports industry, acknowledging that these two dimensions are interconnected, with the former influencing the latter. The author argues that, similar to traditional industries, the esports sector faces challenges related to social sustainability. Building on this premise, the paper proposes addressing the social divide in the esports industry by exploring how virtual phenomena have real-world implications that should be regulated by law.

Methods: The study focuses on the legal dimensions of esports in the real world, particularly in relation to their social sustainability. While esports theoretically offer a unique space for inclusion, the practical challenge remains: creating an inclusive and socially sustainable ecosystem within the industry is yet to be realized. The paper investigates how the esports industry, and its interactions with third parties, must comply with legal frameworks (at international, European, and national levels) to ensure that activities align with legal limits, including public order. Since esports companies function as private entities, similar methods used to reconcile private autonomy with legal norms in other industries may also apply here.

Findings: The paper explores the concept of esports, its link to social sustainability, and the consequences of its application within the industry. It demonstrates that the virtual world is more "real" than it is often perceived, underscoring the need for a deeper understanding of how esports companies can implement social sustainability within their internal policies. These policies could draw on approaches already in use in other sectors, such as new leadership models, expanded roles to support company functions, or even AI-driven tools to monitor and enforce internal social policies. Finally, the development of a socially sustainable model in the esports industry is proposed as a pilot study to promote industrial policies centered on well-being. The partial results of this research may also serve as a catalyst for engaging other scientific fields within the social sciences, fostering a broader conversation on sustainability in digital industries. In fact, a general focus on the enforcement of socially sustainable measures enables the achievement of many SDGs, not only those most obviously related to the health aspect (SDG3) of esports, but also others, such

as SDG 5 (gender equality), SDG 8 (decent work and economic growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (reduced inequalities).

Conclusion: It is now possible to address the previous question. It no longer makes sense to view the virtual and real worlds as separate and unconnected. While virtual events cannot be physically touched, their effects are felt in both dimensions. Esports clearly demonstrate this, with legal, economic, and social consequences in the real world. If a virtual event has real effects, it requires regulation regardless of its intangible nature. These are simply two dimensions of the same world. We examined the issue of social sustainability in esports and explored how industry policies aim to address it, beyond comparisons with traditional sports.

Keywords: e-sports, metaverse, social sustainability, industrial policies, legal solutions

References

- Betti, E. (1949). Interpretazione della legge e degli atti giuridici. Milano, Italy: Giuffrè.
- Di Nella, L. (1999). Il fenomeno sportivo nell'ordinamento giuridico. Napoli, Italy: ESI.
- Filanti, G. (2017). Interpretazione, nuova retorica e fattispecie. In C. Cicero & G. Perlingieri (Eds.), *Liber amicorum per Bruno Troisi*, I (p. 515). Napoli, Italy: ESI.
- Maio, E. (2020). Clausola compromissoria e meritevolezza nel sistema di giustizia sportiva. Napoli, Italy: ESI.
- Perlingieri, P. (2020). Il diritto civile nella legalit: costituzionale. Napoli, Italy: ESI.
- Tullio, L. (2017). Analogia tra eguaglianza, ragion d'essere e meritevolezza. In G. Perlingieri & M. D'Ambrosio (Eds.), *Fonti, metodo e interpretazione*, in ADP (p. 101). Napoli, Italy: ESI.
- Bevilacqua, G., & Maio, E. (2022). Approaching the legal issues surrounding social sustainability in electronic sports. [Journal name missing], 2, 277–301.
- Calliess, C. (2009). Generationengerechtigkeit im Grundgesetz: Brauchen wir einen Artikel 20b GG? *Berliner Online-Beiträge*, 54, 7 ff.
- D'Amico, G. (2019). L'insostituibile leggerezza della fattispecie. *Ars Interpretandi*, 1, 54.
- Everett, H. (1957). "Relative state" formulation of quantum mechanics. *Review of Modern Physics*, 29, 454–462.
- Ladu, M. (2023). Oltre l'intangibilit: dei principi fondamentali: la revisione – silenziosa - dell'art. 9 Cost. *Federalismi.it*, 1, 39 ff. Retrieved from <https://www.federalismi.it/>

- Shinohara, T. (2021). The protection of esports players against the use of doping substances and methods under the European Convention on Human Rights: The Swiss example. *International Journal of Esports*, 1, 8.
- Corte di giustizia dell'Unione Europea. (2017, October 26). *The English Bridge Union Limited v. Commissioners for Her Majesty's Revenue & Customs*, Case C-90/16. Retrieved from <https://www.curia.europa.eu/>
- European Parliament. (2022, November 10). Resolution on esports and videogames. Retrieved from <https://www.europarl.europa.eu/>

Shaping the Future of Esports: Comparing Philosophies, Labor and Infrastructure in Collegiate Programs

Maxwell Foxman, University of Oregon; Amanda Cote, Michigan State University; Andy Wilson
University of Oregon; Vasil Arangelov, University of Oregon; Bri Sonner University of Oregon; Jeffery
Fricke-Waters, Michigan State University

Introduction: There has been widespread adoption of university-level esports around the world, but esports' integration into higher education has been haphazard, resulting in a dizzying landscape of overlapping yet distinct modes of competition (Seth, 2025). Programs serve various purposes – from fostering management skills to being feeders for pro leagues (Foxman et al., 2024). Program origins and motivations also vary, representing distinct educational values, student cultures, and stakeholders (Kauwelo, 2021; Scholz, 2019; Taylor, 2021). Thus, unlike other parts of academia, including ball-and-stick athletics, nascent esports programs differ in philosophy, program goals, and scope; in full-time positions and labor (e.g., Harris et al., 2022); and infrastructure, investment, and spaces (Kauwelo, 2024; Rourke & Pastore, 2024). Without clear future directives, collegiate programs may not be able to thrive in the long-term, despite their rising presence on campuses.

Therefore, this study showcases the varied visions of US collegiate esports programs to provide an overarching typology of their philosophies, organizations, and infrastructure as a model for future development and sustainability. We ask:

RQ1: How are program structures impacted by different philosophies, positions, and infrastructures?

RQ2: What are university administrators' motivations for developing programs?

Methods: We address these questions using a multimethod approach, combining a census of program data collected from participating members of the National Association of Collegiate Esports (NACE) and semi-structured interviews with collegiate university stakeholders (N=37) in the United States. We focus on US collegiate programs because we are located within this system, studying it from the inside, and because US university types, educational models, and esports program greatly vary (Foxman et al., 2024). Census data was collected from 291 institutions and includes information on school departments, games played, codes of conduct, administrative information, rosters, media productions teams, and program descriptions. Interviews supplement this overview with insights on motivations and reasoning about program structure. These were analyzed via an inductive thematic analysis (Braun & Clarke, 2021).

Findings and Discussion: While analysis is ongoing, some trends are emerging. Census data shows that most NACE programs are situated in athletic departments (64%). Programs primarily operate with staff of less than ten, in contrast to ball-and-stick athletic counterparts. Motivation for programs is moderately uniform, with public descriptions stating that teams were founded largely because of gaming's popularity and for community building.

In interviews, administrators note that program structures are impacted by bottom-up cultures of ownership and empowerment, such as through developing internal policy documents and student codes of conduct. There is a high degree of autonomy; organizational decision-making mostly hinged on resource availability, with exceptions like university branding. Administrators also sought to integrate esports across campus units (e.g., communications, business, education), indicating longitudinal planning to move gaming beyond simply competition. However, directors at larger universities were frustrated with reluctance for schools to "buy in" to the phenomenon in the way that smaller liberal arts colleges do. Together, these perspectives imply that university administrators position esports programs as part of overall institutional strategic planning, retention, and growth.

Ultimately, this work is meant to elucidate how programs form and sustain themselves as well as provide a rubric by which researchers and administrators can articulate why such extracurricular activities are important in the future. While we focus on the US environment to maintain scope, we hope these findings will launch comparative regional investigations.

Keywords: Collegiate Esports, Collegiate Programs, Infrastructures, Labor, Interviews

References

- Braun, V., & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. SAGE.
- Jenny, S. (2025). Research+. Retrieved July 31, 2025, from <https://www.sethjenny.com/research>
- Foxman, M., Jenny, S. E., Cote, A. C., King, M. R., & Becka, L. (2024). Competitive Collegiate Esports Programs. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports* (pp. 454–465). Routledge.
- Harris, B. C., Hansen, J., Can, O., Rahman, M. W. U., Foxman, M., Cote, A. C., & Fickle, T. (2022). "Starting from scratch to looking really clean and professional": how students' productive labor legitimizes collegiate esports. *Critical Studies in Media Communication*, 39(2), 141–153.
- Kauwelo, N. S. (2021). The emergence of college esports in North America. In D. Y. Jin (Ed.), *Global esports* (pp. 262–280). Bloomsbury Academic.

- Kauwelo, N. S. (2024). Esports Venue Design and Management. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports*. Routledge.
- Rourke, D., & Pastore, R. (2024). Esports equipment and infrastructure. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports* (pp. 65–78). Routledge.
- Scholz, T. M. (2019). *eSports is Business: Management in the World of Competitive Gaming* (2019). Springer Nature.
- Taylor, N. (2021). Kinaesthetic masculinity and the prehistory of esports. *ROMchip*, 3(1). <https://www.romchip.org/index.php/romchip-journal/article/view/131>

Ghouls 'n Ghosts at the Student Union: Collegiate Esports Pre-History in 1990s Tournaments

Matt Knutson, University of North Dakota

Introduction: Collegiate esports have, for the last decade, received increasing attention as the next frontier in intercollegiate competition as institutions vie to prove themselves more digitally adept than their rivals. However, the history of digital collegiate competition goes back much further than the first official esports program at Robert Morris in 2014: college campuses hosted videogame competition on arcades as early as the 1980s, sometimes even with an intercollegiate scope.

Purpose/Research Question: What can the competitive collegiate gaming events of the early 1990s between Nintendo and Sega illuminate about the pre-history of esports? Scholarship has recently illuminated student-led competitive gaming activities in the first decade of the 2000s (Kauwelo, 2021) and collegiate esports' significant expansion across campuses in the form of school-sanctioned competition (Foxman et al., 2024). But little has been said about collegiate competitions that took place even before the rise of StarCraft, other than acknowledging Stanford's Spacewar! tournament in 1972. The present study seeks to deepen the field's historical understanding of organized collegiate gaming competition.

Methods: The presentation employs archival study of contemporary newspapers and gaming magazines along with original interviews with competitors and industry figures as primary source material. The interviews were conducted in the summer of 2025 via video call, and the archival study was conducted through Newspapers.com, searches of student newspapers, and gaming magazines digitized on archive.org.

Results: In the fall of 1990, Sega traveled to 60 US college campuses with a competition display featuring several of their new games. After this tour, Sega invited the top 30 scorers in the nation to the championship round in Hawaii the week before Christmas 1990. As one interviewee, the then-director of marketing for Sega of America, explained, the tour brought the Genesis to many campuses and led to a Genesis ambassador program for college students. For its part, Nintendo put on its Campus Challenge the following year, visiting campuses and conducting its finals in Disney World in Orlando in January 1992. Another interviewee, the winner of this competition, explained that Nintendo ensured a wholesome image for the event by requiring competitors to play in their school sweatshirts (purchased for them by Nintendo).

Findings: On one level, this chapter of intercollegiate competition is an expression of the rivalry between Nintendo and Sega in the 1990s. On another, the episode provides illuminating pre-history for collegiate esports today. The drive to prove oneself the best at digital games against collegiate peers is, as this presentation shows, durable. In these events in the early 1990s, that interest was organized in the service

of publicity rather than community-centered competition. This history demonstrates that gaming companies were leveraging college students' will to compete in an effort to reach adolescent audiences about 25 years before the start of sanctioned collegiate esports. However, such competitions were one-off events and nothing like a sustained effort in structured intercollegiate competition.

Early high-stakes collegiate competitions in digital games were decidedly more about marketing contemporary products than proving which individuals or institutions were the best competitors. While contemporary esports is a means of marketing competitive games and reaffirming their relevance to players, the collegiate space is (at least from the institution's point of view) more about marketing a given college or university to potential students than it is about marketing the game to a potential audience.

Keywords: collegiate, history, publicity, Nintendo, Sega

References

- Borowy, M., & Jin, D. (2013). Pioneering eSport: The Experience Economy and the Marketing of Early 1980s Arcade Gaming Contests. *International Journal of Communication*, 7, 21. Retrieved from <https://ijoc.org/index.php/ijoc/article/view/2296/999>
- Foxman, Maxwell, et al. "Competitive Collegiate Esports Programs." Routledge Handbook of Esports, edited by Seth E. Jenny et al., 1st ed., Routledge, 2024.
- Kauwelo, N. S. (2021). The Emergence of College Esports in North America. In D. Y. Jin (Ed.), *Global eSports: Transformation of Cultural Perceptions of Competitive Gaming*. Bloomsbury Academic.
- Kline, S., Dyer-Witthof, N., & Peuter, G. de. (2003). *Digital Play: The Interaction of Technology, Culture, and Marketing*. McGill-Queen's University Press.
- Zhouxiang, L. (2022). *A History of Competitive Gaming*. Routledge.
<https://doi.org/10.4324/9781003095859>

Reconceptualizing Sponsorship Authenticity in Esports: A Context-Sensitive Examination of Horizontal Marketing Partnership Authenticity (HMPA)

Viola Kopsch, Hamburg University of Technology

Introduction: Since the early 2010s, esports has transformed from a niche subculture into a global industry with revenues growing from \$1.18 billion in 2017 to \$4.78 billion by 2025 (Statista, 2025). Despite this expansion, its economic foundations remain underdeveloped (Freitas, 2023). Unlike traditional sports, esports revenue relies heavily on sponsorships, accounting for approximately 60% of income (Allenstein et al., 2020). This dependence creates financial instability, particularly during economic downturns, when marketing budgets are cut, prompting sponsor withdrawals and event cancellations (Avallone, 2010; Browning, 2022; Gonzalez, 2022; Nasmedia, 2024; Shabir, 2017; Ströh, 2017).

While sponsorships can drive brand awareness (Ströh, 2017), purchase intention (Huettermann et al., 2023), and positive brand image (Freitas et al., 2020a), sponsors often exit the market prematurely. Esports audiences are particularly sceptical of perceived exploitation, often reacting negatively especially toward non-endemic sponsors (Huettermann et al., 2023). Unsuccessful sponsorships can result in reputational damage through negative word-of-mouth and adverse brand associations (Freitas et al., 2020b; Shabir, 2017; Ströh, 2017).

Despite growing interest, no best-practice framework for successful sponsorships in esports exists. However, one critical factor is consistently emphasized by both practitioners and scholars: Esports consumers demand authenticity (Pizzo & Hedlund, 2024; Huettermann et al., 2023). Research highlights the need to better understand how consumers perceive and evaluate sponsorship authenticity (Cornwell & Kwon, 2020).

Purpose: Marketing is often criticized for its lack of authenticity (Deibert, 2017), making credible partnerships increasingly difficult to establish. As consumers increasingly value more genuine and transparent experiences (Beverland & Farrelly, 2010; Gilmore & Pine, 2008), sponsorships must adapt.

Yet, research has largely focused on authenticity at the individual brand or product level (Grayson & Martinec, 2004), rather than on inter-entity relationships. Although authenticity has been linked to sponsorship success, e.g., brand engagement and purchase intention, it is typically treated as a moderating factor, not a core construct (e.g. Moharana et al., 2023; Schönberner & Woratschek, 2023).

Charlton and Cornwell (2019) addressed this gap by introducing the concept of Horizontal Marketing Partnership Authenticity (HMPA), defined as the perceived genuineness of the relationship between

partnering brands in traditional sports. While this construct provides a generalized, more relational perspective on authenticity, its specific application to sponsorships in esports remains underexplored.

Given the industry's unique dynamics and community values, it is likely that the dimensions constituting HMPA require adaptation. Recent scholarship suggests that the authenticity construct may exhibit a "family resemblance" structure, where the relevance of specific dimensions varies by context, underlining the need for adaption (Nunes et al., 2021; Podsakoff et al., 2016).

Thus this research examines:

How do esports spectators evaluate the authenticity of event and tournament sponsorships, and does the HMPA framework sufficiently capture the dimensions of perceived authenticity in this context?

We propose a context-sensitive reconstruction of the HMPA construct specific to the esports domain, following Nunes et al.'s (2021) approach to construct reconceptualization.

Methods: To explore the relevance and completeness of the HMPA dimensions in the esports sponsorship context, a qualitative approach combining deductive and inductive reasoning is adopted. Thirty semi-structured interviews with esports spectators will be conducted in the upcoming weeks, guided by Jaccard and Jacoby's (2019) model-building methodology, to identify which dimensions of authenticity are retained, modified, or expanded in this unique sponsorship context.

Data will be analyzed using Mayring's (2014) structured content analysis to ensure theoretical rigor and empirical validity.

Keywords: esports, sponsorship authenticity, Horizontal Marketing Partnership Authenticity (HMPA), consumer perception, qualitative content analysis

References

- Allenstein, U., Gediehn, O., Lehmann, S., & Singer, D. (2020, July 31). *Esports and the next frontier of brand sponsorships*. McKinsey & Company. <https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/e-sports-and-the-next-frontier-of-brand-sponsorships>
- Avallone, A. (2010). *Stermy's Life Story*. In *eSports Yearbook 2009*. Books on Demand GmbH. Retrieved from <https://esportyearbook.com/eyb2009.pdf>.
- Beverland, M. B., & Farrelly, F. J. (2010). The quest for authenticity in consumption: Consumers' purposive choice of authentic cues to shape experienced outcomes. *The Journal of Consumer Research*, 36(5), 838–856. <https://doi.org/10.1086/615047>

- Browning, K. (2022, November 26). *Video game esports profit. The New York Times*.
<https://www.nytimes.com/2022/11/26/business/video-game-e-sports-profit.html>
- Charlton, A. B., & Cornwell, T. B. (2019). Authenticity in horizontal marketing partnerships: A better measure of brand compatibility. *Journal of Business Research*, 100, 279-298.
<https://doi.org/10.1016/j.jbusres.2019.03.054>
- Cornwell, T. B., & Kwon, Y. (2020). Sponsorship-linked marketing: Research surpluses and shortages. *Journal of the Academy of Marketing Science*, 48(4), 607–629. <https://doi.org/10.1007/s11747-019-00654-w>
- Deibert, A. (2017, May 26). *Why authenticity in marketing matters now more than ever. Forbes*.
<https://www.forbes.com/sites/forbescommunicationscouncil/2017/05/26/why-authenticity-inmarketing-matters-now-more-than-ever/#28be854d7982>.
- Finch, D. J., Abeza, G., O'Reilly, N., & Mikkelsen, A. (2020). Esport sponsorship: Practitioners' perspectives on emerging trends. *Journal of Brand Strategy*, 9(1), 59-74.
<https://doi.org/10.69554/lnyc1064>
- Freitas, B. D. A., Contreras-Espinosa, R. S., & Correia, P. Á. P. (2020a). Sponsoring esports to improve brand image. *Scientific Annals of Economics and Business*, 67(4), 495-515.
<https://doi.org/10.47743/saeb-2020-0030>
- Freitas, B. D. A., Contreras-Espinosa, R. S., & Correia, P. Á. P. (2020b). Esports Sponsorships: The Double-Edged Sword Effect of Having a Very Vocal Audience. In *International Conference on Videogame Sciences and Arts* (pp. 1-14). Cham: Springer International Publishing.
- Freitas, B. D. A. (2023). The infancy of the esports industry as a risk to its sponsors. *Scientific annals of economics and business*, 70(3), 421-458. <https://doi.org/10.47743/saeb-2023-0030>
- Gilmore, J. H., & Pine, B. J. (2008). Authenticity: What consumers really want. *Choice Reviews Online*, 45(11), 45–6277. <https://doi.org/10.5860/choice.45-6277>
- Gonzalez, E. (2022, December 8). *The hype around esports is fading as investors and sponsors dry up. Los Angeles Times*. <https://www.latimes.com/business/story/2022-12-08/esports-hype-fading-investors-sponsors-dry-up>
- Grayson, K., & Martinec, R. (2004). Consumer perceptions of iconicity and indexicality and their influence on assessments of authentic market offerings. *Journal of Consumer Research*, 31(2), 296-312.
<https://doi.org/10.1086/422109>

- Huettermann, M., Trail, G. T., Pizzo, A. D., & Stallone, V. (2023). Esports sponsorship: An empirical examination of esports consumers' perceptions of non-endemic sponsors. *Journal of Global Sport Management*, 8(2), 524-549. <https://doi.org/10.1080/24704067.2020.1846906>
- Jaccard, J., & Jacoby, J. (2019). *Theory construction and model-building skills: A practical guide for social scientists*. Guilford publications.
- Jenny, S. E., Besombes, N., Brock, T., Cote, A. C., & Scholz, T. M. (2024). Routledge Handbook of Esports. In Routledge eBooks. <https://doi.org/10.4324/9781003410591>
- Mayring, P. (2014). Qualitative content analysis: theoretical foundation, basic procedures and software solution. 143, 143. https://www.ssoar.info/ssoar/bitstream/document/39517/1/ssoar-2014-mayring-Qualitative_content_analysis_theoretical_foundation.pdf
- Moharana, T. R., Bhattacharjee, D. R., Pradhan, D., & Kuanr, A. (2023). What drives sponsorship effectiveness? An examination of the roles of brand community identification, brand authenticity, and sponsor–club congruence. *Psychology & Marketing*, 40(6), 1211-1236. <https://doi.org/10.1002/mar.21802>
- Morhart, F., Malär, L., Guèvremont, A., Girardin, F., & Grohmann, B. (2015). Brand authenticity: an integrative framework and measurement scale. *Journal of Consumer Psychology*, 25(2), 200-218. <https://doi.org/10.1016/j.jcps.2014.11.006>
- Nasmedia. (2024, March 5). The declining of investors and sponsors in esports, explained. Medium. <https://nasmedia.medium.com/the-declining-of-investors-and-sponsors-in-esports-explained-dcee4450ba92>
- Nunes, J. C., Ordanini, A., & Giambastiani, G. (2021). The concept of authenticity: What it means to consumers. *Journal of Marketing*, 85(4), 1-20. <https://doi.org/10.1177/0022242921997081>
- Pizzo, A. D., & Hedlund, D. P. (2024). Sponsorship in Esports. In Routledge Handbook of Esports (pp. 348-357). Routledge.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for Creating Better Concept Definitions in the Organizational, Behavioral, and Social Sciences. *Organizational Research Methods*, 19 (2), 159–203. <https://doi.org/10.1177/1094428115624965>
- Schönberner, J., & Woratschek, H. (2023). Sport sponsorship as a booster for customer engagement: The role of activation, authenticity and attitude. *International Journal of Sports Marketing and Sponsorship*, 24(2), 259-277. <https://doi.org/10.1108/ijsms-05-2022-0098>

- Shabir, N. (2017). Esports: The Complete Guide 17/18: A guide for gamers, teams, organisations and other entities in, or looking to get into the space. Self-published.
- Statista. (2025, June 23). eSports market revenue worldwide from 2017 to 2029. Retrieved 31 August, 2025 <https://www.statista.com/statistics/490522/global-esports-market-revenue/>
- Ströh, J. H. A. (2017). The eSports Market and eSports Sponsoring. Tectum Verlag. <https://doi.org/10.5771/9783828866485>

Esports Uncensored Between Digital Governance Power and the Jurisprudence of the European Court of Human Rights

Nesligul Deniz Kolasinli, Bahcesehir University; Giorgia Bevilacqua, University of Vanvitelli

The rise of electronic sports (esports), usually considered as a type of sport, gaming or entertainment, has transformed competitive gaming into a global cultural and economic phenomenon. Whereas the primary role of video games as tools of information and communication is recognised by international governmental and non-governmental bodies, in parallel, a number of ethical and legal issues challenging the right to freedom of expression are now emerging in the esports' ecosystem. Against this controversial background, this paper examines the complex challenges to freedom of expression in esports, analysing how corporate governance, identity politics, platform moderation, and religious-cultural dynamics may shape what players and communities can say and show.

The authors, in particular, will preliminarily reflect on several empirical cases from esports—including the corporate suppression of dissent (e.g., Blitzchung), identity-based risks in unsafe environments (e.g., the Esports World Cup in Saudi Arabia), and platform-level censorship (e.g., Twitch moderation). Examples such as governmental platform restrictions and corporate self-censorship around LGBTQ+ visibility illustrate the intersection of national legal frameworks, religious-cultural contexts, and global esports governance. Then, authors identify and assess the international (binding and non-binding) legal instruments which may, in principle, be applied to the esports sector (section III) and how these instruments have been actually interpreted and recently applied by the jurisprudence of the European court of human rights in conventional sports' cases (section IV). Bearing in mind the common aspects as well as the profound differences that de facto exist between electronic and traditional sport and will clearly emerge through the analysis, the paper conclude that freedom of expression in esports is conditioned by privatized power structures and geopolitical realities, requiring both legal and systemic reforms to protect meaningful speech and identity visibility in this evolving digital arena.

Keywords: Esports, Freedom of Expression, Digital Governance, Human Rights, Esports Law

How to Get Somebody Jumpin': Music, Community, and Canon in Modern Esports Titles

Ryan Thompson, Michigan State University

In 2010, California-based rap artist Zaid Tabani (then under the moniker RedRapper) created a short music video for the Evolution tournament grand finals event for Super Street Fighter II (2010), featuring a combination of in-game footage, Tabani rapping, and clips of other Street Fighter media (including the 1994 film). This unlicensed, unofficial video (neither endorsed nor taken down by Capcom, who makes Street Fighter) marked the beginning of a new trend in esports competitions, where community-driven original musical works (not covers of in-game music) would quickly become standard.

Riot Games borrowed something from Tabani's concept when in 2014 they moved away from orchestral concerts featuring pieces of music from League of Legends to commissioning Imagine Dragons to write "Warriors" as a theme song for the tournament that year. In 2015 when they hired (the comparatively much less-known) League community streamer and musician Nicki Taylor to write and perform "Worlds Collide," it feels even closer to the model Tabani originated (though Riot provided a much larger budget than Tabani had for production), as live-commentary from the 2014 season fills in the gaps between Taylor's verses, connecting the play of the game to the music directly.

This model of community participation through music proved unsustainable at Riot – the company moved on to a new model of musical presentation built around promoting the sale of in-game cosmetics for characters starting in 2018. It has, however, remained a vital part of reinforcing the idea that the fighting game community (FGC) operates from the "bottom up" rather than a corporately-controlled "top-down" model; Street Fighter tournaments are largely run by volunteers and are open to the public, while Riot Games (and most other corporations who develop large esports titles) maintain tight control over who plays on the formal, professionally-competitive stage.

This short presentation examines the value of using musical presentation to reinforce a notion of community organizing at FGC events, how the FGC continues to leverage the memory of informal competition at the arcade as the basis for organized play, and how even when Sony purchased the Evolution fighting game tournament in 2021, the spirit of that event being a community-driven space lingers in meaningful ways. From 2022 onward, Zaid Tabani and his now-team of collaborators have formally released videos and albums for EVO that exist in something of an unofficial canon, where community insiders know this music well – "Runback City" in particular is something of a theme song for Street

Fighter 6 despite not appearing in the game – and outsiders new to the FGC are invited into a tradition spanning decades, beyond the scope and scale of any one company or hardware platform.

Keywords: Music, community, fandom, arcade, EVO

The Global Goal: Cultural Signatures in the Psychology of Competitive eFootball Players

Kanupriya Rawat, Kazimierz Wielki University

Purpose: This study explores cross-cultural psychological differences between Indian and Polish eFootball players in three key domains: sports anxiety, achievement motivation, and physical self-description.

Methods: Data were collected from 400 male eFootball players (200 Indian, 200 Polish) using demographic questions and three questionnaires: the Sports Anxiety Scale-2, the 3x2 Achievement Goal Questionnaire-Sports, and the short form of the Physical Self-Description Questionnaire. ANOVA was conducted to analyze group differences across the psychological variables.

Results: Significant cross-cultural differences emerged. Indian players reported higher worry and somatic anxiety levels, while Polish players had stronger self-concept scores, particularly in coordination and endurance. Differences were also observed in achievement goal orientations, with notable variation in other-approach goals.

Discussion/Conclusion: The findings suggest that cultural context significantly influences the psychological profiles of eFootball players. Indian and Polish players exhibit distinct patterns in anxiety, motivation, and physical self-perception, emphasizing the importance of cultural awareness in designing psychological support systems and performance strategies for esports athletes.

Significance (Practical Implications): This study highlights the potential of coaching, mental skills training, and cross-cultural team management in global esports settings, supporting the development of culturally responsive performance frameworks for competitive eFootball players.

Keywords: eFootball, esports psychology, cross-cultural comparison, achievement goals, anxiety, physical self-concept

Optimizing Performance and Well-Being in Esports: A Psychological Training Protocol

Andrea Caputo, Giuseppe Vercelli and Claudio Giovanni Cortesel, University of Turin

Introduction: Esports has evolved into a global competitive arena requiring psychological skills comparable to those of traditional athletes (Leis et al., under review; Pedraza-Ramirez et al., 2020). Players perform under intense cognitive load, time constraints, and public scrutiny (Watson et al., 2021), but structured psychological training in this domain remains limited (Munroe Chandler et al., 2023). Existing interventions often lack theoretical and practical coherence, highlighting the need for domain-specific frameworks that integrate assessment and mental training strategies.

Purpose: This study aimed to evaluate the effectiveness of a psychological training protocol based on the e-S.F.E.R.A. model (Caputo et al., 2023; Vercelli, 2005), an applied sport psychology framework targeting five key mental dimensions: Synchrony, Strength, Energy, Rhythm, and Activation. We hypothesized that participants undergoing the training would demonstrate greater improvements in psychological functioning, perceived performance, and wellbeing-related indicators compared to controls.

Methods: A quasi-experimental design involved 97 professional esports athletes (mean age = 27.22 years; 4.1% female), recruited from competitive teams and from the esports section of the Italian National Amateur League (Lega Nazionale Dilettanti, LND), i.e. the largest component of the Italian Football Federation (FIGC). Participants were assigned to either an experimental group (n = 59) receiving a two-session video-based psychological training or a control group (n = 38). Training modules included practical exercises targeting each S.F.E.R.A. dimension (e.g., attentional anchoring, breathing regulation, goal setting) and daily engagement tasks. Assessments were conducted at baseline (T0), after Session 1 (T1), and post-training (T2), using the validated e-S.F.E.R.A. Questionnaire and additional measures of Perceived Performance Satisfaction and Wellbeing-Related Psychological Dimensions. Data were analyzed using repeated-measures ANOVA, focusing on Time $\times$ Group interactions.

Results: Significant interaction effects supported hypotheses. Participants in the experimental group showed greater improvement over time in psychological dimensions, notably Synchrony ($F = 26.70$, $p < .001$, $\eta^2 = .22$), Rhythm ($F = 44.33$, $p < .001$, $\eta^2 = .32$), and Energy ($F = 16.65$, $p < .001$, $\eta^2 = .15$), with medium-to-large effect sizes. Indicators of Perceived Performance Satisfaction increased, including Perceived Potential Expression ($F = 7.58$, $p < .001$, $\eta^2 = .07$) and Overall Performance Satisfaction ($F = 13.34$, $p < .001$, $\eta^2 = .12$). Positive emotional outcomes were also observed: Positive

Affectivity ($F = 8.10, p = .005, (\eta^2 = .08)$), Engagement ($F = 7.87, p = .006, (\eta^2 = .08)$), and a reduction in Negative Affectivity ($F = 8.52, p = .004, (\eta^2 = .08)$).

Discussion and Conclusion: Findings provide empirical support about the e-S.F.E.R.A. model as an effective psychological training framework for performance optimization in esports. Improvements in key cognitive-emotional factors and perceived performance satisfaction suggest that structured interventions grounded in applied sport psychology principles, already used with Olympic athletes, can enhance mental readiness and motivation in competitive gaming. Despite limitations—self-report measures and quasi-experimental design—the results highlight the model's applicability and practical value. Future studies could integrate in-game metrics and physiological measures.

Significance: This study underscores the importance of integrating evidence-based psychological programs into esports coaching practices. The e-S.F.E.R.A. model offers a coherent, adaptable approach for enhancing resilience, self-regulation, and sustained high-level performance, contributing to the professionalization and health of esports athletes.

Keywords: esports, psychological training, performance enhancement, mental skills, applied sport psychology

References

- Caputo, A., Drivet, S., Sandretto, R., Vercelli, G., & Cortese, C. G. (2023). The e-S.F.E.R.A. Questionnaire: A new tool for sport psychologists working in mental training. *The Open Psychology Journal*, 16(1), 1–13. <https://doi.org/10.2174/18743501-v16-230301-2022-105>
- Leis, O., Swettenham, L. D., & Sharpe, B. T. (under review). Applied sport psychology in esports: Directions for future research and practical implications. Manuscript submitted for publication.
- Munroe-Chandler, K. J., Loughhead, T. M., Zuluev, E. G., & Ely, F. O. (2023). An imagery-based intervention for managing anxiety in esports. *Journal of Imagery Research in Sport and Physical Activity*, 18(s1), 20230005. <https://doi.org/10.1515/jirspa-2023-0005>
- Pedraza-Ramirez, I., Musculus, L., Raab, M., & Laborde, S. (2020). Setting the scientific stage for esports psychology: A systematic review. *International Review of Sport and Exercise Psychology*, 13(1), 319–352. <https://doi.org/10.1080/1750984X.2020.1723122>
- Vercelli, G. (2005). *Vincere con la mente*. Firenze, Italy: Ponte alle Grazie.

Watson, M., Abbott, C., & Pedraza-Ramirez, I. (2021). A parallel approach to performance and sport psychology work in esports teams. *International Journal of Esports*, 2(2).
<https://www.ijesports.org/article/52/html>

The Co-Op Catalyst: Reimagining Esports Infrastructure to Address Social Isolation, Workforce Gaps, and Global Digital Transformation

Gina Johnson, APU Esports Student / iGameUSA Founder & Board President

Introduction: As esports becomes central to global digital culture, rural and underserved regions risk exclusion. Idaho's Treasure Valley Co-Op, led by iGameUSA and Elevate Nation, presents a scalable esports model connecting game-based learning, workforce readiness, and civic engagement by joining hands with over 500 organizations nationwide. The Co-Op counters digital inequality by integrating esports into public life, helping charities fundraise via Esports as a whole, and reimagining community centers as launchpads for social healing and entrepreneur education.

Purpose/Research Question: How can an esports-first community model, rooted in local identity, promote equitable digital transformation across education, health, and entrepreneurship?

Methods: This study applies a socio-technical comparison across three Idaho-based ecosystems: Boise State Varsity Esports, the Idaho High School Esports Association, and the iGameUSA Co-Op. Boise State's institutional status limits community access, while K–12 leagues lack intergenerational ties. The Co-Op bridges these gaps with storytelling, tech access, and hybrid learning. Idaho's outdoor-first culture is addressed through immersive STEM experiences and simulators tied to public safety and fitness, inspired by local innovations like BlackBox VR and the invention of television. Finally, the Co-Op's shared-use model thrives in Idaho's light-regulation environment, offering business incubation and nonprofit sustainability outside traditional systems, in contrast to CWI's stalled esports development.

Results: While the Co-Op is not yet constructed, projected outcomes are informed by regional economic trends and public health data. Idaho ranks among the states with the least mental health support access and highest youth suicide risk, yet offers minimal institutional esports investment. With a 2025 tech layoff wave displacing over 70,000 U.S. professionals (Corrall et al., 2025), many are relocating to states like Idaho due to lower living costs and open land. Unlike coastal hubs, Idaho's business-friendly climate and lack of regulatory friction create an attractive launchpad for independent studios, especially from displaced talent in California, Oregon, and Washington.

Despite this opportunity, cultural skepticism around gaming persists in Idaho, particularly within conservative communities that view esports as frivolous or contrary to outdoor traditions. The Co-Op model mitigates this by offering hybrid recreational programming that fuses gaming with physical activity, public safety simulations, and life-skills training—appealing to rural values. Potential outcomes include job

creation in content, media, education, and mental health programming, with projected ecosystem benefits mirroring early-stage innovation hubs across the U.S.

Discussion/Conclusion: The Co-Op reframes esports as a civic infrastructure: not merely a spectator activity but a system of educational, social, and economic resilience. It challenges stereotypes about indoor play and rural tech capacity by creating cross-sector engagement hubs.

Significance: The Co-Op offers a replicable model for inclusive, regional esports development that links gaming to career pathways, public health, and civic identity. It demonstrates esports' potential as a tool for digital equity and societal advancement.

Keywords: Esports infrastructure, digital equity, Charity Partnerships, social innovation, rural inclusion

References

- AbleGamers. (2024, June 14). How the gaming industry is adapting. <https://ablegamers.org/how-the-gaming-industry-is-adapting/>
- Bellis, M. (2025, May 13). Who invented LED or the light emitting diode? ThoughtCo. <https://www.thoughtco.com/led-light-emitting-diode-1992081>
- Boyd, R. (2025a, July 22). Boise State Esports, Kivi-TV, Scripps, and CSMG team up for historic "above the line" docuseries. Boise State Varsity Esports. <https://www.boisestate.edu/esports/2025/07/21/boise-state-esports-docuseries/>
- Corrall, C., Stringer, A., & Park, K. (2025, April 11). A comprehensive list of 2025 tech layoffs. TechCrunch. <https://techcrunch.com/2025/04/11/tech-layoffs-2025-list/>
- Elevate Nation & iGameUSA. (2025). Treasure Valley Co-Op Pitch Deck [PDF].
- Everett-Haynes, L. M. (2025, February 26). SDSU receives prestigious grant to revolutionize career readiness with esports-inspired platform. SDSU. <https://www.sdsu.edu/news/2025/02/sdsu-receives-prestigious-grant-to-revolutionize-career-readiness-with-esports-inspired-platform>
- Gaeddert, B. (2025a, January 4). The Olympic esports movement: Opportunities, challenges, and controversy. LinkedIn. <https://www.linkedin.com/pulse/olympic-esports-movement-opportunities-challenges-bubba-gaeddert-gzfyf/>
- Johnson, G. (2025). ESPT201: Contemporary Issues in Esports Essay [PDF].
- Melhorn, S. F., & Hoover, M. (2025, March 21). Understanding America's labor shortage: The most impacted industries. U.S. Chamber of Commerce.

<https://www.uschamber.com/workforce/understanding-americas-labor-shortage-the-most-impacted-industries>

Tuttle, Z. (2025, July 8). Boise State Esports to join Athletic Departments in July 2025. KTVB. <https://www.ktvb.com/article/news/local/boise-state-esports-to-join-department-of-athletics-fall-2025-from-college-of-innovation-and-design/277-173481a7-3eac-4ed4-b3f9-fd49c876e033>

Beyond Competition: Preparing College ESports Players and Enthusiasts for Careers

Angela Macias, California State University Dominguez Hills

Introduction (background/context): This research investigates the values and positive attributes of gaming subcultures and communities of practice. Gamers represent an example of a Community of Practice (COP) due to their shared values, learning processes, and group dynamics that impact identity (Farnsworth et al., 2016). As people engage in a COP, they exercise self-regulation, reflection, and goal setting (Bandura, 2006). They also engage in ongoing negotiations about what it means to be a part of that group, which shapes their understanding of self and others.

Purpose/Research Question (objective): What are the funds of knowledge present in gaming communities that can be leveraged by educators to support better pathways into college and careers for esports competitors and gaming enthusiasts? Funds of knowledge are defined as "historically accumulated and culturally developed bodies of knowledge and skill essential for household and individual functioning and well-being" (Moll, et al., 1992, p. 133). Gamers engage in activities and communities throughout their daily lives that often remain irrelevant to their education, despite valuable skills and knowledge that can support success.

Methods (approach; data collection/analysis): Three kinds of data are presented in this study to inform the broader understanding of gaming community subcultures. First, over 500 anonymous forum posts are synthesized from three popular websites to help represent objective and well-rounded representations of values, norms, and practices among gaming communities online. Second, ten interviews with professionals provide in-depth reflections on experiences, supports, and barriers that were present in their journey to gaming and gaming-adjacent careers. Third, the principal researcher shares a first-hand account of how a university can make strides to better serve gamers through student services, course revision, and special career-focused events.

Results (key findings): Online forum posts: Data indicates gaming communities foster the following funds of knowledge that can also be leveraged in educational settings:

1. Technical expertise
2. Strategic and analytical thinking
3. Community collaboration
4. Cultural knowledge
5. Perseverance and resilience

6. Resourcefulness and innovation
7. Linguistic and communicative skills

Interviews: Data from interviews depict shared themes revolving around the following:

1. Community and connection
2. Career pathways
3. Positive impacts of gaming experiences
4. Barriers and challenges related to gamer identities

College supports for gamers:

1. Club activities beyond esports
2. Career workshops and engagement strategies
3. Enhancing instruction and supporting faculty

Discussion/Conclusion (interpret findings): Findings indicate that despite long lasting stigma and stereotypes, the gaming communities have many positive values and benefits for members. Those of us in higher education must advocate to highlight and build upon these strengths in student activities, classroom instruction, and career planning pathways.

Significance (practical implications): Creating more intentional opportunities to embrace gaming across school campuses for students, staff, and faculty are likely to improve pathways into gaming-related careers. Additionally, colleges and schools have the unique opportunity and position to provide a positive influence in gaming subcultures by building on funds of knowledge to help address future innovation, unity, and equity in gaming and technology industries.

Keywords: college, subculture, community, career, higher education

References

- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1(2), 164–180. <https://doi.org/10.1111/j.1745-6916.2006.00011.x>
- Farnsworth, V., Kleanthous, I., & Wenger-Trayner, E. (2016). Communities of practice as a social theory of learning: A conversation with Etienne Wenger. *British Journal of Educational Studies*, 64(2), 139–160.
- Moll, L., Amanti, C., Neff, D., & Gonzales, N. (1992). Funds of knowledge for teaching: using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, 31(2), 132–141.

Who Plays Collegiate Esports? A Comprehensive Demographic Analysis of VOICE-Affiliated Programs

Seth E. Jenny, Slippery Rock University of Pennsylvania; David P. Schary, Winthrop University

Introduction: As collegiate esports programs continue to proliferate across higher education institutions, understanding the demographic composition of participants becomes critical for program directors, athletic departments, and institutional leadership. While universities increasingly adopt esports programs as recruitment and retention tools (Stone, 2024), limited empirical research exists examining who actually participates in these programs compared to the broader student population at the same institution. Previous studies have provided initial evidence about esports demographics (e.g., Hedlund, 2023; Rudolf et al., 2020; Voinea et al., 2025), but comprehensive comparative analyses beyond simple descriptive statistics of collegiate esports remain scarce (Postell & Narayan, 2023; Scholz & Nothelfer, 2022). This demographic gap represents a significant knowledge deficit for institutions seeking to understand esports' role in enrollment and recruitment strategies, as well as those interested in joining this space.

Primary Research Question: What are the demographic characteristics of varsity collegiate esports programs, and how do these demographics compare to the general student body populations at their respective institutions?

Design and Methods: A mixed-method cross-sectional exploratory design employing surveys with quantitative and open-response questions was utilized. The study centered on 12 Voice of Intercollegiate Esports (VOICE; <https://www.voicecollegiate.org>) universities, with VOICE funding this research. Institutional Review Board (IRB) approval and participant consent were obtained prior to study initiation. All surveys were piloted by one collegiate esports program in December 2024. Three different online surveys were administered to: (a) VOICE-affiliated esports directors (n = 12), (b) VOICE-affiliated esports staff (n = 14), and (c) VOICE-affiliated esports players (n = 252; completed entirely, n = 198). Additionally, comprehensive "varsity esports player spreadsheet" roster data (n = 598 players) was completed by all but one VOICE-affiliated esports director. Comparative analysis utilized institutional student body data obtained from each institution's institutional research office or the National Center for Education Statistics. Chi-square tests and Z-tests were used to analyze potential comparative differences between esports participant demographics and institutional student body demographics (Pagano & Mattie, 2022). Descriptive statistics were calculated for continuous, categorical, and ordinal variables across the dataset.

Results: First, descriptive analysis of collegiate esports program characteristics reveal vast differences across the following areas: housing of esports; types of competitive esports program(s); academic esports programming; esports program equipment and facilities; esports budgets; paid esports staff positions; program "competitiveness ratings" by director, staff, and players; game titles played (institution website listings vs. director reported); collegiate esports league participation.

Further comparative analyses revealed significant demographic patterns across the key variables of gender representation, racial and ethnic diversity, international student recruitment, academic performance, and field of study concentration comparing esports program students to general body students at the same institution. Results demonstrated both areas of successful student engagement and persistent representation gaps that may warrant institutional attention. The demographic analysis revealed both opportunities and challenges for collegiate esports programs, with universal male dominance across all institutions and significant racial representation patterns that differ from general student body compositions.

Significance: While programs successfully engage high-achieving STEM students and can serve as effective international recruitment tools, significant gender and racial representation gaps persist, suggesting there may be systemic barriers to female participation that require targeted intervention strategies. Results provide evidence-based insights for program directors and institutional administrators developing recruitment initiatives and program accessibility measures. Findings can help inform policy decisions like scholarship allocation, marketing strategies, and partnership development with academic departments, particularly in STEM fields. This research serves as a foundational demographic study for future investigations in collegiate esports that help augment the Esports Foundry reports (Postell & Narayan, 2023).

Keywords: collegiate esports, esports demographics, academic esports, university esports, student recruitment, esports accessibility

References

- Hedlund, D. P. (2023). A typology of esports players. *Journal of Global Sport Management*, 8(2), 460-477.
<https://doi.org/10.1080/24704067.2021.1871858>
- Pagano, M., Gauvreau, K., & Mattie, H. (2022). *Principles of biostatistics* (3rd ed.). Chapman and Hall/CRC. <https://doi.org/10.1201/9780429340512>
- Postell, C., & Narayan, K. (2023). Trends in collegiate esports: Volume 4 (2022-2023 scholastic year). Esports Foundry. <https://www.esportsfoundry.com/Trends-in-Collegiate-Esports.html>

- Rudolf, K., Bickmann, P., Froböse, I., Tholl, C., Wechsler, K., & Grieben, C. (2020). Demographics and health behavior of video game and eSports players in Germany: the eSports study 2019. *International journal of environmental research and public health*, 17(6), 1870. <https://doi.org/10.3390/ijerph17061870>
- Scholz, T. M., & Nothelfer, N. (2022). Research for CULT committee: Esports – background analysis. European Parliament. [https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU\(2022\)699635](https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)699635)
- Stone, A. (2024). Collegiate esports programs serve as recruitment and retention tools. EdTech. <https://edtechmagazine.com/higher/article/2024/05/collegiate-esports-programs-serve-recruitment-and-retention-tools>
- Voinea, A., Matak, L. M., & Grigoriu, C. (2025). The e-sports phenomenon in the university environment: Involvement, perceptions and challenges. A comparative analysis between technical and economics students. *Proceedings of the International Conference on Business Excellence*, 19(1), 865-879.

What are the Benefits of (Collegiate) Esports? A Mixed-method Cross-sectional Exploratory Study

Seth E. Jenny, Slippery Rock University of Pennsylvania; David P. Schary, Winthrop University

Introduction: Due to decreasing enrollments and economic uncertainties, some universities have gravitated toward starting competitive and academic esports programs in the attempt to recruit more students and improve current student retention rates (Stone, 2024). However, little empirical research has investigated the effectiveness of this business strategy in higher education. Moreover, while many media and academic articles espouse the "benefits of esports", many provide no empirical support for these claims, relying primarily on conjecture and secondary theoretical research papers (e.g., British Esports Association, 2019; Scholz & Nothelfer, 2022). Thus, this study aimed to answer the following research question:

Primary Research Question: What are the benefits of collegiate esports programs to institutions of higher education?

Design and Methods: A mixed-method cross-sectional exploratory design employing surveys with quantitative (i.e., closed-response) and open-response questions were used. Sampling centered on the 12 Voice of Intercollegiate Esports (VOICE; <https://www.voicecollegiate.org>)-affiliated universities. VOICE funded this research.

Institutional Review Board (IRB) approval and participant consent were obtained prior to the start of the study. All three surveys were piloted by one institution in December 2024. Three different online surveys were administered to three different groups of participants: (a) VOICE-affiliated esports directors (n = 12), (b) VOICE-affiliated esports staff (n = 14; i.e., non-directors), and (c) VOICE-affiliated esports players (n = 252; completed entirely, n = 198). In addition, comparative analysis was utilized with each institution's student body data obtained from each institution's institutional research office website (or equivalent institution posted "facts" reports), or from the National Center for Education Statistics (<https://ies.ed.gov/national-center-education-statistics-nces>) institutional profile, as well as further triangulation of "varsity esports player spreadsheet" roster data (n = 598 players) that was completed by all but one VOICE-affiliated esports director.

Survey questions were created based upon the study's aim and past research regarding the benefits of esports, gaming, or recreational sports, particularly within scholastic environments (i.e., Akkaya, 2021, Aranas et al., 2021; British Esports Association, 2019; Buzzelli & Draper, 2021; Dekker & Slotboom, 2023; Delello et al., 2021, Delello et al., 2023; Delello et al., 2025; Feng, 2024; Guo, 2020; Huk, 2019; Ke

& Wagner, 2022; Keith et al., 2021; Lee et al., 2021; Mora-Cantalops & Sicilia, 2019; National Intramural-Recreational Sports Association, 2000; Postell & Narayan, 2023; Rothwell & Shaffer, 2019; Scholz & Nothelfer, 2022; Steinkuehler, Anderson, et al., 2023; Steinkuehler & Reitman, 2020; Steinkuehler et al., 2019a, 2019b; Zomer et al., 2021).

Descriptive statistics were calculated for a range of continuous, categorical, and ordinal variables across the dataset. Chi-square tests and Z-tests were used to analyze potential comparative differences (Pagano & Mattie, 2022). Analysis of open-response qualitative survey responses included the iterative process of validating the output through open coding of primary categories, axial coding (Creswell & Poth, 2018).

Results: The findings were mixed and centered on the key variables of enhancing student diversity and inclusion, academics, enrollment and recruitment, retention and graduation, benefits of esports, and skill development from esports.

Significance: To our knowledge, this is the largest collegiate esports study ever conducted to date. This research is a landmark study for future investigations in both collegiate esports and on the benefits of esports. Results, which likely transfer to many esports settings outside of collegiate, will be discussed regarding the found benefits of collegiate esports, areas of concern for collegiate esports, and variables not found to correlate with collegiate esports.

Keywords: benefits of esports, transferrable skills, esports career, esports in education, university esports, esports in higher education, #EsportsEDU, academic esports, enrollment, recruitment, retention

References

- Akkaya, S., Şen, B. G., & Kapıdere M. (2021). A multi-directional assessment related to E-sports as A new game experience field and socialising tool. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 25(3), 968-988. <https://doi.org/10.53487/ataunisobil.944458>
- Aranas, K., Elmergreen, J., Gordon, K., Gouglas, S., Kagel, B., Robison, C. & Sollazzo, A. (2021). Benefits of Video Games in K-12 Education. Higher Education Video Game Alliance and Entertainment Software Association. <https://www.theesa.com/resources/benefits-of-video-games-in-k-12-education>
- British Esports Association. (2019, July). Esports: The world of competitive gaming. <https://britishesports.org/wp-content/uploads/2019/07/What-is-esports-PDF-JUL19-V4.pdf>

- Buzzelli, A., & Draper, J. (2021). Are they athletes? A self-assessment of athletic identity measurement and perceived benefits of collegiate Esports participants. *Recreational Sports Journal*, 45(2), 117-130. <https://doi.org/10.1177/15588661211033252>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.
- Dekker, S., & Slotboom, C. (2023). Benefits of recreational gaming. *International Journal of Esports*, 1(1), 1-11. <https://www.ijesports.org/article/96/html>
- Delello, J. A., McWhorter, R. R., Roberts, P. B., De Giuseppe, T., & Corona, F. (2023). The risks and rewards of collegiate esports: A multi-case study of gamers in the United States and Italy. *International Journal of Gaming and Computer-Mediated Simulations (IJGCMS)*, 15(1), 1-22. <https://doi.org/10.4018/IJGCMS.317115>
- Delello, J. A., McWhorter, R. R., Roberts, P., Dockery, H. S., De Giuseppe, T., & Corona, F. (2021). The rise of esports: Insights into the perceived benefits and risks for college students. *International Journal of eSports Research (IJER)*, 1(1), 1-19. <https://doi.org/10.4018/IJER.20210101.oa5>
- Delello, J., McWhorter, R., Yoo, S., Roberts, P., & Adele, B. (2025). The impact of esports on the habits, health, and wellness of the collegiate player. *Journal of Intercollegiate Sport*, 18(1), 1-22. <https://doi.org/10.17161/jis.v18i1.21714>
- Feng, J. (2024). University students' participation and opinions on esports in China: An empirical research. *Asian Journal of Sport History & Culture*, 3(3), 306-326. <https://doi.org/10.1080/27690148.2024.2395954>
- Guo, Z., Cahalane, M., & Carbonie, A. (2020). Pursuit of happiness through esports: An interpretive structural approach. *Proceedings from the 2020 Pacific Asia Conference on Information Systems (PACIS)*, 199, Dubai, UAE. <https://aisel.aisnet.org/pacis2020/199>
- Huk, T. (2019). The social context of the benefits achieved in eSport. *The New Educational Review*, 55, 160-169. https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.ojs-doi-10_15804_tner_2019_55_1_13
- Jenny, S. E., & Sharpe, B. T. (in press). Levels of esports. In D. P. Hedlund, S. E. Jenny, & G. Fried (Eds.). *Esports Business Management* (2nd ed.). Human Kinetics.
- Ke, X., Wagner, C. (2022). Everyday gaming induces amateur esports participation through commitment. *ECIS 2022 Research Papers*. 105, 1594. https://aisel.aisnet.org/ecis2022_rp/105

- Keith, M. J., Dean, D. L., Gaskin, J., & Anderson, G. (2021). Team building through team video games: Randomized controlled trial. *JMIR Serious Games*, 9(4), e28896. <https://doi.org/10.2196/28896>
- Lee, J. S., Wells, G., Anderson, C. G., & Steinkuehler, C. (2021). NASEF internal report: Student outcomes and attitudes. <https://connectedlearning.uci.edu/wp-content/uploads/2022/09/2021-Y4-Student-Outcomes-and-Attitudes-Report.pdf>
- Mora-Cantalalops, M., & Sicilia, M. Á. (2019). Team efficiency and network structure: The case of professional League of Legends. *Social Networks*, 58, 105-115. <https://doi.org/10.1016/j.socnet.2019.03.004>
- National Intramural-Recreational Sports Association. (2000). Quality and importance of recreational services: Technical manual and survey. NIRSA.
- Nothelfer, N., Jenny, S. E., & Besombes, N. (2024). Defining and spelling Esports. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.), *Routledge Handbook of Esports* (pp. 6-18). Routledge. <https://doi.org/10.4324/9781003410591-3>
- Pagano, M., Gauvreau, K., & Mattie, H. (2022). *Principles of biostatistics* (3rd ed.). Chapman and Hall/CRC. <https://doi.org/10.1201/9780429340512>
- Postell, C., & Narayan, K. (2023). Trends in collegiate esports: Volume 4 (2022-2023 scholastic year). Esports Foundry. <https://www.esportsfoundry.com/Trends-in-Collegiate-Esports.html>
- Rothwell, G., & Shaffer, M. (2019). eSports in K-12 and post-secondary schools. *Education Sciences*, 9(2), 105. <https://doi.org/10.3390/educsci9020105>
- Scholz, T. M., & Nothelfer, N. (2022). Research for CULT committee: Esports – background analysis. European Parliament. [https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU\(2022\)699635](https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)699635)
- Steinkuehler, C., Anderson, C. G., Reitman, J. G., Lee, J. S., Wu, M., Wells, G., & Gardner, R. T. (2023). Enriched esports: The design and four-year examination of a school-affiliated competitive videogame program for youth. *Journal of Interactive Learning Research*, 34(1), 59-119. <https://www.learntechlib.org/primary/p/221828>
- Steinkuehler, C. & Reitman, J. (2020). NASEF students' surveyed beliefs and attitudes. Connected Learning Lab White Paper No. 5013.04. https://connectedlearning.uci.edu/wp-content/uploads/2022/09/5013.04_Y3-Survey.pdf
- Steinkuehler, C., Reitman, J., Cho, A., Gardner, R., & Campbell, K. (2019a). Enriching esports: Assessment of an after school esports program for teens. Connected Learning Lab White Paper

- No. 5013.03. https://connectedlearning.uci.edu/wp-content/uploads/2022/09/5013.03_Y2-Survey-Group-Comparisons.pdf
- Steinkuehler, C., Reitman, J., Gardner, R., Campbell, K., & Cho, A. (2019b). Academic and Social-Emotional Learning in NASEF: Quantifying the Patterns in Qualitative Observations. Connected Learning Lab White Paper No. 5013.02. https://connectedlearning.uci.edu/wp-content/uploads/2022/09/5013.02_Y1-Quant-Analysis-of-Qual-Codes-.pdf
- Stone, A. (2024). Collegiate esports programs serve as recruitment and retention tools. EdTech. <https://edtechmagazine.com/higher/article/2024/05/collegiate-esports-programs-serve-recruitment-and-retention-tools>
- Zomer, C., Magee, L., & Third, A. (2021). Benefits of recreational gaming and e-sports for young people. Young & Resilient Research Centre. Western Sydney University. https://www.westernsydney.edu.au/__data/assets/pdf_file/0008/1963835/Benefits_of_Recreation_Gameing_and_e-Sports.pdf

Listen to the Coaches: Practitioners' Perspective on the Relevance of Selected Cognitive Skills and Assessments for Esports Performance

Egemen Mancı, Izmir Democracy University; Fırat Özdalyan, University of Izmir; Arnd Gebel, University of Potsdam; Çağdaş Güduç, Izmir Dokuz Eylül University; Erkan Günay, Manisa Celal Bayar University; Seth E. Jenny, Slippery Rock University; Notger G. Müller, University of Potsdam; Fabian Herold, HMU Health and Medical University Erfurt

Introduction: The relationship between cognitive performance and gaming performance in esports and esports players is frequently researched in the literature (Fisher et al., 2019; Lorenzo Calvo et al., 2021; Mancı, 2022; Toth et al., 2020). However, there is no agreement on the essential abilities for success in esports or the suitable exams to evaluate these skills. Thus, the research aims to determine the most suitable cognitive abilities and assessments for evaluating cognitive performance in esports athletes.

Methods: This study comprised 51 esports coaches with an average age of 31.82 ± 6.38 years and an average of 14.59 ± 7.10 years of esports experience. Participants became familiar with cognitive skills, domains, and assessments in a course on cognition. They subsequently had the opportunity to become familiar with each cognitive test by executing them. Subsequently, participants were questioned regarding their views on relevant cognitive abilities for in-game esports performance and the most appropriate cognitive assessment for evaluating these skills in esports players.

Results: The interviewed esports coaches identified attention, reaction time, and timing as the most pertinent cognitive skills for in-game esports performance, and they evaluated the Change Detection Test, the Timewall Test, and the Flanker Test as the most significant cognitive assessments for evaluating cognitive skills in esports players.

Discussion: Expert esports coaches identify which tests are most pertinent to esports performance and suitable for evaluating cognitive abilities in esports athletes. The conclusions highlight the significance of cognition in esports and direct future study on the determinants affecting in-game performance. However, further investigation is required to ascertain their predictive relevance for talent discovery and player selection.

Keywords: Attention, inhibitory control, memory, player selection, talent identification, video games

References

Fisher, G. G., Chacon, M., & Chaffee, D. S. (2019). Theories of cognitive aging and work. In *Work across the lifespan* (pp. 17–45). Elsevier. <https://doi.org/10.1016/B978-0-12-812756-8.00002-5>

- Lorenzo Calvo, J., Fei, X., Domínguez, R., & Pareja-Galeano, H. (2021). Caffeine and cognitive functions in sports: A systematic review and meta-analysis. *Nutrients*, 13(3), 868. <https://doi.org/10.3390/nu13030868>
- Mancı, E. (2022). Esporda bilişsel performans. In E. Mancı, S. Bekir, & Y. N. Çakır (Eds.), *Espora multidisipliner yaklaşımlar* (Vol. 1, pp. 113–120). Nobel Bilimsel Eserler. <https://doi.org/10.5281/zenodo.8217239>
- Toth, A. J., Ramsbottom, N., Kowal, M., & Campbell, M. J. (2020). Converging evidence supporting the cognitive link between exercise and esport performance: A dual systematic review. *Brain Sciences*, 10(11), 859

Streaming, Media, Fan Communities, and Audience Engagement in Esports: Growing a Sustainable Community in Africa

Gabriel Atsu Sikanku and Kenechukwu Okeke, Esports Africa News

This paper critically examines how streaming platforms, media narratives, and fan community structures are shaping the African esports ecosystem. While global esports economies have leveraged digital broadcasting, influencer culture, and fan monetization to achieve sustainability, Africa's esports scene remains underdeveloped in these domains. Drawing on primary field research, platform analytics, and case studies across Africa, Asia, and North America, this study maps the current state of African esports media engagement and proposes pathways to community-led, digitally empowered, and economically sustainable development. The study advances the argument that media ecosystems and fan infrastructure are essential to digital transformation in African sport, with esports as a driver of economic, educational, and social change.

Introduction: Esports has become a global media phenomenon, valued at USD \$1.4 billion (2024) with over 600 million fans worldwide (Newzoo, 2024). In North America, Europe, and East Asia, streaming, social media, and fan monetization have created a viable financial base for teams, publishers, and creators. Yet in Africa, despite increasing player activity and viewership, a coherent media and fan strategy remains emergent. This paper asks: How can Africa use streaming, digital media, and fan communities to build a sustainable esports ecosystem?

Methodology: This mixed-method study combines:

- Qualitative interviews with 21 African esports players, streamers, and media producers across Ghana, Nigeria, Kenya, and South Africa.
- Platform data analysis (YouTube, Twitch, TikTok, Facebook Gaming) of African esports content from 2022–2025.
- Comparative case studies of: LCK and LPL broadcasting (Korea and China), League of Legends Championship Series (USA), Media practices in traditional African football.

Current State of Streaming and Media in African Esports: Only 13% of active African esports tournaments are streamed consistently (Esports Africa News, 2024). African streamers earn on average less than \$80/month, compared to \$500–\$2000 in Asia/Europe (TwitchTracker, 2024). TikTok, Instagram, and Facebook are the dominant platforms; Twitch adoption is low due to high data costs and platform unfamiliarity.

Case Studies:

- Tema Esports Club (Ghana): Uses TikTok Reels to stream local tournaments. Gained over 30,000 followers in under 12 months.
- Korea's LCK Model: Generated \$97 million in media rights and sponsorships in 2023 (Korean Esports Association).
- Esports Africa News: Coverage of African qualifiers for the Esports World Cup 2025 reached over 600,000 unique viewers via social.

Challenges in Africa: Connectivity and cost: 1 GB of mobile data in sub-Saharan Africa averages \$1.80 (A4AI, 2024), discouraging video content consumption.

Lack of local monetization tools and absence of structured leagues with broadcast-ready formats.

Opportunities and Recommendations: Localised content and language, community-first streaming platforms, fan economy activation (digital collectibles, supporter tokens), and government/education partnerships for digital esports integration.

Conclusion: Esports in Africa is not merely a digital pastime—it is a platform for economic innovation, youth empowerment, and cultural expression. To grow sustainably, the African esports sector must prioritize streaming, fan-centric media, and community ecosystems as central pillars.

Keywords: Streaming, Media, Fan Communities, Audience Engagement, Sustainable Community

Sustainable Esports to Develop Interdisciplinary Solutions for Challenges in the AI-Mediated Digital Transformation of Society

Brian McCauley, Jönköping International Business School; Tobias M. Scholz, University of Agder

Introduction: We present our expert perspective that builds directly on previous work around esports and sustainability (Scholz & McCauley, in press), which argued that the esports industry must evolve from surface-level sustainability efforts to adopt integrated, systemic strategies. In that article, we outlined the risks of fragmented governance, performative environmental gestures, and short-term economic models, while emphasizing esports' potential to serve as a laboratory for digital-era sustainability. As AI disruption intensifies and our digital society becomes increasingly mediated by platforms, esports remain one of the most influential—and underleveraged—spaces for innovation in sustainability. This perspective extends earlier work such as Nyström et al., (2022) by updating the research agenda and elevating the interdisciplinary dimensions of esports sustainability.

Purpose/Research: The objective is twofold: (1) to reassess the state of esports sustainability following our prior contribution, and (2) to expand the framework with a future-oriented, interdisciplinary research agenda that positions esports as a site for sustainable digital transformation—particularly in the context of education, civic life, and AI-mediated environments.

Methods: This structured perspective draws on our editorial involvement, recent literature, and evolving stakeholder discourse. Synthesizing insights across academic, industry, and community domains, we identify persistent gaps in the esports sustainability landscape and propose a four-pillar research agenda grounded in interdisciplinary thinking.

Results: Our findings reinforce and extend those from our prior paper: social inclusion remains underdeveloped despite some progress; economic models are shifting but remain volatile; environmental strategies are largely symbolic. However, we now highlight a rapidly emerging fourth pillar: esports as a tool for interdisciplinary innovation. New applications in education, digital citizenship, and institutional governance suggest that esports may be most impactful not within gaming per se, but as a proving ground for sustainable practices applicable across digital society. For example, can we leverage and structure how games such as Valorant are played to develop skills such as teamwork (McCauley, 2025)?

Discussion: We argue that esports must now be understood as more than a cultural product, it is an infrastructure for digital engagement with enormous potential to promote civic agency, collaborative learning, and systems thinking. As we proposed in Scholz & McCauley (in press), sustainability in esports must be proactive, integrated, and intersectoral. This perspective expands that call by emphasizing how

esports can serve as an educational counterbalance to AI-induced deskilling, while modeling sustainability governance that can inform other digital industries. The future of esports sustainability lies in its ability to transcend its own sector and shape broader social norms in a digital-first world.

Significance: The research agenda presented here invites scholars, educators, industry actors, and policymakers to leverage esports as a testbed for building a more sustainable digital society. From digital literacy to circular economies, esports can incubate innovations that scale beyond gaming. The shift from symbolic gestures to structural change requires collaboration across silos that results in tangible and actionable solutions.

Keywords: Esports, Sustainability, Artificial Intelligence, AI, digital society

References

- Nyström, A. G., McCauley, B., Macey, J., Besombes, N., Cestino, J., Hiltcher, J., ... & Törmänen, M. (2022). Current issues of sustainability in esports. *International Journal of Esports*, 1(1).
- McCauley, B. (2025). Exploring esports as a platform to develop organizational teams: the case of Valorant. *Team Performance Management: An International Journal*.
- Scholz, T. M., & McCauley, B. (in press). The future of esports sustainability: Interdisciplinary pathways and challenges in an AI-mediated digital transformation of society. *Journal of Electronic Gaming and Esports*.

The Lower-Bracket Effect: Does Playing More Matches Increase the Win Chance in PUBG?

Espen Sjoberg, Kristiania University College of Applied Sciences

Introduction: Many sports, including several esports branches, utilize a tournament structure where the performance of teams places them in tier-based brackets. Typically, following the group stage, the best performing teams are placed in the upper bracket, which increases their chance of advancing to the grand finals. The lowest performing teams, however, are placed in the lower bracket. Here, the teams often must play additional matches at increased risk, in order to advance to the grand finals.

Research Question: This paper poses a question in this regard: Is a team more or less likely to win if placed in the lower bracket? One may argue that teams in the lower brackets have an advantage, since they have to play more matches, and therefore spend more time on the tournament stage, effectively getting more practice. A counter-argument is that playing additional matches may also cause mental fatigue, causing worse performance, and thus reducing the win chance.

Methods: In this paper, we compare team performance in two world championship tournaments in PUBG, using two different tournament structures. In the 2023 tournament, teams could be relegated to the lower bracket, and a last chance phase, meaning that it was possible to win the tournament with as few as 42 matches or as many as 66 matches. By contrast, the 2024 tournament utilized a structure with day-to-day circuit qualifiers, where playing more matches meant achieving more group stage points.

Results: Preliminary results suggests that in the 2023 tournament, playing fewer matches increased win rate. Only one team went through all 66 possible matches and placed in the top 5. In the 2024, the opposite was found, and playing more matches increases win rate. Six teams played the minimum possible matches to qualify for the grand finals, but none of them ended in the top 5.

Discussion: Combined, this suggests that predicting the win rate of the teams is likely not impacted by games played and fatigue, but rather skill: those teams with a high skill level (as indicated by more points secured per game) were more likely to win in either tournament, regardless whether the tournament required few or many matches to qualify for the grand finals.

Significance: Fatigue as a result of playing a large amount of games may impact performance, but results from this study suggests that skill performance is a more reliable win predictor. A team consisting of high-performing members are more likely to win a tournament, regardless of how many matches they have to play.

Keywords: tournament, bracket system, fatigue, performance, pubg

GROUPIES AND STANS: Examining Community Sentiment to Feminised Fan Practices in League of Legends Esports

Tina Tian Sang, unaffiliated; Adeline K. Piercy, University of Alberta

INTRODUCTION: Spectatorship has always been integral to the gaming experience, particularly for esports as a media industry. Carter and Egilston (2021) argue that the audience engages in affective labour and is key to the commodification of esports broadcasting platforms. As esports has sought to professionalise, its various actors have faced a constant state of renegotiation (N. Taylor, 2016). Compared to fandoms in traditional media, however, esports fandom typically originates from playing the game. The player-spectator, an "active participant who switches between playing and watching" (Witkowski, 2019), is the main demographic in esports viewership and participation. As T. L. Taylor (2012) argues, this level of access and connection creates a strong sense of community, but one that is ultimately insular and inaccessible to new or different kinds of fans.

Esports fan identity is more than just attachment to players or teams but is also intertwined with game cultures and the imagined "gamer" identity. When the audience for esports broadens, the anxieties of "illegitimate" fans polluting what was a once-niche space begin to appear. As seen in Ge and Chen's (2023) examination of Chinese pro League of Legends fandom, the policing of fan identity often falls across gendered and nationalist lines. Male fans in particular create boundaries that separate "real" fans from "celebrity-culture fans," who are often women using practices from idol culture, such as fanbases found in K-pop communities. Akin to broader gaming communities, esports fandom often utilises game knowledge and the racialised and gendered "gamer" identity to define its fan membership. This practice is not dissimilar to gendered spaces in video games, with games targeted to a "designed identity" (Chess, 2017) of women gamers and the dismissal of casual games as opposed to "hardcore" games (Cote, 2020).

PURPOSE: This project examines "fangirl" or feminised fandom practices in North American and Korean League of Legends fan communities.

METHODS: An investigative ethnography (Kozinets, 2019) was conducted, focused predominantly on social platforms such as Twitter/X, Reddit, and YouTube. Feminist gaming scholarship (Chess, 2017; Cote, 2020) is referenced to draw parallels between women who game and women who are fans of esports. This project also utilizes autoethnographic experiences from the authors as a League of Legends fan and social media manager, and as a K-pop idol fan, respectively.

RESULTS AND DISCUSSION: Feminised fan labour – such as fan art and gift campaigns – provides a sense of legitimacy to the esports scene's popularity and demonstrates their dedication to the community.

However, fangirls are often depicted as less knowledgeable about the game or not caring about "proper" aspects of the scene, typically attributing their interest in the esport solely to physical or sexual attraction to the players. More traditional fans express discomfort at such attitudes, often decrying them as invasive or disrespectful to the community.

SIGNIFICANCE: Esports fan identity is often negotiated between the player-spectator-consumer and the mainstream newcomer. A desire for a tight-knit community with its amateur, passionate, emotional attachment and fantasy of accessibility and bootstrap mentality comes into direct conflict with the ever-increasing commercialisation of said community for the mainstreaming and growth of esports as a media entertainment industry. Navigating this conflict often reinforces the exclusionary nature of the esport space. This project seeks to challenge and complicate the gendered nature of esports fandom and how it is positioned within the community and industry.

Keywords: fan studies, feminism, asia, gender, community management

References

- Carter, M., & Egliston, B. (2021). The work of watching twitch: Audience labour in livestreaming and esports. *Journal of Gaming and Virtual Worlds*, 13(1), 3–20. Scopus®. https://doi.org/10.1386/JGVW_00025_1
- Chess, S. (2017). *Ready Player Two*. University of Minnesota Press.
- Cote, A. (2020). *Gaming Sexism: Gender and Identity in the Era of Casual Video Games*. New York University Press.
- Ge, L., & Chen, Z. T. (2023). 'Watching Our Men Playing for the Nation': Esports LPL's Hierarchical, Gendered, and Mainstreameist 'All-Chinese Team' Fandom in China. In F. Gilardi & P. Martin (Eds.), *Esports in the Asia-Pacific: Ecosystem, Communities, and Identities* (pp. 207–226). Springer Nature. https://doi.org/10.1007/978-981-99-3796-7_10
- Kozinets, R. (2019). *Netnography: The essential guide to qualitative social media research* (3rd edition). SAGE Publications.
- Taylor, N. (2016). Play to the camera: Video ethnography, spectatorship, and e-sports. *Convergence*, 22(2), 115–130. <https://doi.org/10.1177/1354856515580282>
- Taylor, T. L. (2012). *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*. MIT Press. <http://ebookcentral.proquest.com/lib/ualberta/detail.action?docID=3339416>

Witkowski, E. (2019). Counter-Strike: Spectatorship. In M. T. Payne & N. B. Huntemann (Eds.), *How to Play Video Games* (Vol. 1, pp. 293–300). NYU Press.
<https://www.jstor.org/stable/j.ctv12fw8tn.39>

Esports Hit the Big Time: What Organisational and Reputational Problems Face Esports at the Olympic Esports Games 2027 and Beyond?

Rory Summerley, London South Bank University

This paper examines several questions raised by the upcoming inaugural Olympic Esports Games (OEG) 2027. Announced by the International Olympic Committee (IOC) and organised by the National Olympic Committee of the Kingdom of Saudi Arabia (KSA) exclusively for the next 12 years (as of 2025) (anocolympic.org, 2024), the introduction of the OEG is a milestone that will mark the beginning of a project long in the making, the introduction of esports formally into the framework of the biggest international sports organisation in the world. This marks an opportunity to forward the global reputation of esports broadly, but the situation also presents various problems and risks that result in several questions that this paper explores.

These problems include the choice of games played at the OEG; the categorisation of 3 esports types by the IOC (IOC Media, 2024); the kingdom of Saudi Arabia's authoritarian capitalist economic policy with regards to sports (and perceptions and criticisms of this policy (Ettinger, 2023)); and the IOC's approach to the acknowledgement and legitimisation of esports with respect to the values of different stakeholders. The questions these problems raise have both organisational and ultimately reputational dimensions and so the paper aims to provide a commentary by literature review of the relevant stakeholders, culture, and history of esports' integration into larger non-esports bodies.

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, both the IOC and KSA have faced criticism for how they handle various enterprises. The way in which their reputations intertwine with the establishment of a positive reputation for esports looks set to be quite challenging out of the gate. Compromises such as the values set out in the Olympic Charter as well as Saudi Arabia's own problematic history with human rights already suggests that the OEG may struggle with not only which games are representative of esports, but also who can or will represent them. The exclusivity of KSA as the host city for a period of 12 years is also unprecedented for traditional Olympic bidding systems.

There are also unresolved questions about the structure and governance of esports at both the national level and for individual games and their communities. The monolithic grouping of 'esports' brings together many disparate games that do not neatly sit together in terms of game type or regulatory body (if one exists). What does it mean to cling to this collective term in organising large multi-game events, especially

considering the categories the IOC has proposed (i. Physical Sports Games, ii. Electronic or Simulated sports games, and iii. 'Traditional or 'core' esports)?

The paper aims to address these issues one by one, highlighting potential benefits and risks along the way. It groups the various questions and issues into two broad categories of organisational questions and reputational questions before determining conclusions about the future of the global representation of esports outside of 'native' esports events. Therefore, the organisational scope and reputational status of having an Olympic event for 'esports' provides a rich seam of review and discussion for how the OEG will be managed both for its inaugural event and future events.

Keywords: olympics, saudi arabia, events, institutions, reputation

References

- Alardani, G. (2023). QUALITY OF SPORTS MANAGEMENT IN SAUDI ARABIA. *International Journal for Quality Research*, 17(3), 683–694. <https://doi.org/10.24874/IJQR17.03-04>
- Alhumaid, M. M., Brooke, M., & Khoo, S. (2022). Insider Perspectives on Saudi Arabia's Fakhre Disability Sports Programme. *Sustainability*, 14(17), 10706. <https://doi.org/10.3390/su141710706>
- Alminde, O. I., & Jørgensen, T. (n.d.). The Kingdom of Saudi Arabia's use of sports as a legitimization strategy [Master's Thesis, Copenhagen Business School]. https://research-api.cbs.dk/ws/portalfiles/portal/98727537/1556633_Masters_Thesis_Contract_Number_30206.pdf
- Anastasiadis, S., & Spence, L. J. (2020). An Olympic-sized Challenge: Effect of Organizational Pathology on Maintaining and Repairing Organizational Legitimacy in Sports Governing Bodies. *British Journal of Management*, 31(1), 24–41. <https://doi.org/10.1111/1467-8551.12345>
- anocolympic.org. (2024, July 24). IOC enters a new era with the creation of Olympic Esports Games – first Games in 2025 in Saudi Arabia. OLYMPIC MOVEMENT NEWS. <https://www.anocolympic.org/olympic-movement/ioc-enters-a-new-era-with-the-creation-of-olympic-esports-games-first-games-in-2025-in-saudi-arabia/>
- Bissell, K., & Perry, S. (Eds.). (2015). *The Olympics, Media and Society* (0 ed.). Routledge. <https://doi.org/10.4324/9781315871813>
- Ettinger, A. (2023). Saudi Arabia, sports diplomacy and authoritarian capitalism in world politics. *International Journal of Sport Policy and Politics*, 15(3), 531–547. <https://doi.org/10.1080/19406940.2023.2206402>

- Girginov, V. (2023). *The Olympics: A Critical Reader* (1st ed.). Routledge.
<https://doi.org/10.4324/9781003416746>
- Grix, J., & Brannagan, P. M. (2016). Of Mechanisms and Myths: Conceptualising States' "Soft Power" Strategies through Sports Mega-Events. *Diplomacy & Statecraft*, 27(2), 251–272.
<https://doi.org/10.1080/09592296.2016.1169791>
- International Olympic Committee. (2025). *The Olympic Charter*.
<https://stillmed.olympics.com/media/Documents/International-Olympic-Committee/IOC-Publications/EN-Olympic-Charter.pdf>
- IOC Media (Director). (2024, July 23). 142nd IOC Session–Day 1 (Part 2) [Video recording].
https://www.youtube.com/live/wZbI_65juAE?t=9390s
- Leopkey, B., & Parent, M. M. (2012). The (Neo) institutionalization of legacy and its sustainable governance within the Olympic Movement. *European Sport Management Quarterly*, 12(5), 437–455. <https://doi.org/10.1080/16184742.2012.693116>
- Nunes, J. C., Ordanini, A., & Giambastiani, G. (2021). The Concept of Authenticity: What It Means to Consumers. *Journal of Marketing*, 85(4), 1–20. <https://doi.org/10.1177/0022242921997081>
- Pastor, A. (2019). Unwarranted and Invasive Scrutiny: Caster Semenya, Sex-Gender Testing and the Production of Woman In 'Women's' Track and Field. *Feminist Review*, 122(1), 1–15.
<https://doi.org/10.1177/0141778919849688>
- Peacock, B. (2011). 'A Secret Instinct of Social Preservation': Legitimacy and the dynamic (re)constitution of Olympic conceptions of the 'good.' *Third World Quarterly*, 32(3), 477–502.
<https://doi.org/10.1080/01436597.2011.573942>
- Prüschenk, N., & Kurscheidt, M. (2017). Do the Youth Olympic Games have the potential to shift perceptions of Olympism? Evidence from young people's views on Olympic values. *International Journal of Sport Management and Marketing*, 17(4/5/6), 351.
<https://doi.org/10.1504/IJSMM.2017.087440>
- Rahman, M., & Lockwood, S. (2011). How to 'Use Your Olympian': The Paradox of Athletic Authenticity and Commercialization in the Contemporary Olympic Games. *Sociology*, 45(5), 815–829.
<https://doi.org/10.1177/0038038511413426>
- Welsh, O. (2023). We asked the Olympics why their official esports are so weird. Polygon.Com.
<https://www.polygon.com/23630221/olympic-esports-series-2023-sports-are-weird-heres-why>

The Ancients' Guide to Esports Production: Manufacturing the Spirit of Competition from Antiquity to League of Legends

Kevin Wong, Harvard University

Introduction: Since its first World Championship in 2011, Riot Games' League of Legends has profoundly shaped the production, scale, and vision of esports as we know it today. Riot's success at cultivating League's esports scene can be traced, in large part, to an ambitious media strategy—one that has managed to create and harness a synthetic spirit of competition. Using media to cultivate competition and market new modes of entertainment is, however, not a new concept. In fact, it's practically ancient.

This lecture will examine how League of Legends has deployed, adapted, and innovated upon the same strategies of cultural production that the ancient Greeks and Romans were using two millennia ago to successfully market their forms of competitive entertainment.

Purpose/Research Question: While esports may represent the future of entertainment, looking back at the distant past can shed light on the timeless mechanics of cultural production: How do aesthetic decisions in League's esports production (e.g. the recent Hall of Legends initiative) help to transform top players like Faker into celebrities? Are there specific rhetorical strategies that esports commentators use to keep audiences primed for big plays and moments where players 'pop off'? How exactly does the game's extensive transmedia worldbuilding—cinematics, music, and now with the recently completed Arcane, television—work to generate suspense and hype for its esports scene? This presentation takes these aspects of League of Legends as case studies for a comparative analysis across time and culture.

Discussion/Conclusion: The Greeks, too, sold and circulated statues, merchandise, and media based on their winning athletes. The Romans, too, hosted their action-packed contests in grand arenas equipped with the latest technologies. The epic poets, too, had specific ways of commenting on warfare that made celebrated heroes out of soldiers, and set all of their stories within an elaborate transmedia universe that gave each battle a larger cosmic significance. Employing these technologies of culture, the ancients managed to turn their competitive practices of warfare, athletic competitions, and gladiatorial games into some of history's most enduring cultural phenomena—resonances of which we continue to find all over the contemporary world of esports.

Significance: This presentation—emerging at the intersection of Classics, game studies, and media studies—thereby searches the annals of ancient history for lessons and precedents for contemporary esports production.

At this scholarly intersection, the most direct and explicit videogame adaptations of classical antiquity have tended to take the form of single-player games, or at most, include optional small-scale multiplayer modes. These genres have received significant scholarly attention especially in recent years—from action-adventure RPGs (Clare 2021; Beavers 2020); empire-building simulations (Schut 2007), historical warfare simulators (McCall 2020; Machado 2020), and fighting games (Lowe 2021). This presentation offers a new direction in the field by grappling with videogame receptions of antiquity at their most scalable, multiplayer instantiations. At the same time, it builds upon existing scholarship that interrogates how games have reproduced or reformulated the classicizing fixations of their longer-lived filmic and televisual counterparts (Lowe 2009; Steenberg 2020; Clare 2021), integrating the new possibilities presented by esports and online gaming.

Keywords: League of Legends, Classical Antiquity, Aesthetics, Worldbuilding, Commentatorship

References

- Clare, R. (2021). *Ancient Greece and Rome in Videogames: Representation, Play, Transmedia*. Bloomsbury Academic. <https://doi.org/10.5040/9781350157224>
- Beavers, S. (2020). The Representation of Women in *Ryse: Son of Rome*. In C. Rollinger (Ed.), *Classical Antiquity in Video Games: Playing with the Ancient World* (pp. 77-89). Bloomsbury Academic Press.
- Schut, K. (2007). Strategic Simulations and Our Past: The Bias of Computer Games in the Presentation of History. *Games and Culture*, 2(3), 213–235. <https://doi.org/10.1177/1555412007306202>
- McCall, J. (2020). Digital Legionaries: Video Game Simulations of the Face of Battle in the Roman Republic. In C. Rollinger (Ed.), *Classical Antiquity in Video Games: Playing with the Ancient World* (pp. 107–126). Bloomsbury Academic.
- Machado, D. (2020). Battle Narratives from Ancient Historiography to *Total War: Rome II*. In C. Rollinger (Ed.), *Classical Antiquity in Video Games: Playing with the Ancient World* (pp. 93-106). Bloomsbury Academic.
- Lowe, D. (2022). Playable Girls in Ancient Worlds: *Athena* (1986) Opens the Doors. In J. Draycott & K. Cook (Eds.), *Women in Classical Video Games* (pp. 15–28). <http://www.bloomsburycollections.com/collections/monograph>

- Lowe, D. (2009). Playing with Antiquity: Videogame Receptions of the Classical. In D. Lowe & K. Shahabudin (Eds.), *Classics for All: Reworking Antiquity in Mass Culture* (pp. 64–90). Cambridge Scholars Publishing.
- Steenberg, L. (2020). *Are You Not Entertained?: Mapping the Gladiator Across Visual Media*. Bloomsbury Academic.

Gamer Identity and Professionalization in Santiago de Chile: Stories and Representations of the Competitive Gaming Community of Valorant

Joaquin Caviades Paul, Universidad Alberto Hurtado

Today, video games are not merely leisure activities; they have also evolved into competitive practices that share multiple parallels with the sports industry, particularly through games such as League of Legends, Counter-Strike, and Valorant. This competitive scene has grown exponentially since the COVID-19 pandemic, establishing itself as a professional ecosystem involving teams entirely dedicated to the game, with professional players, coaches, data analysts, and health professionals focused on optimizing player performance.

This exploratory and descriptive thesis proposes to analyze the professionalization of electronic sports and the processes through which professional gamers in Chile construct a professional gaming identity. The study seeks to understand how the process of gamer professionalization influences the perceptions and/or self-perceptions of professional Valorant players in Chile. To achieve this, the research addresses the following specific objectives: to identify the trajectories, relationships, both online and offline social contexts that influence the development of professional players, based on their own narratives; to describe the competitive ecosystem in which professional players operate, alongside the various levels of the hierarchical structure of eSports in Chile; and to characterize the elements that form a gamer identity among professional players, drawing from both internal and external perceptions.

The study employed a qualitative, non-probabilistic methodology, using snowball sampling. Six players were interviewed, two of whom are considered amateurs, two semi-professionals, and two professionals, along with four additional interviews with individuals embedded in the eSports ecosystem to better understand its functioning both regionally and globally. This was complemented by ethnographic fieldwork in competitions and video game-dedicated venues such as Gamers City and the Movistar Games Club, in order to provide a broad perspective on the reach and impact of electronic sports within Chilean society.

In doing so, the research examines the construction of a professionalization pathway through which gamers can develop as professionals within the eSports landscape in Santiago, Chile. This includes a description of the different levels, or tiers, of competition present in electronic sports, identifying the similarities and differences between them, as well as the labor implications of pursuing this career. Finally, it presents an account of how both insiders and outsiders to the gaming world perceive professional players, and how these perceptions influence the process of developing as a professional gamer in Chile.

Keywords: Games studies, professionalization, digital anthropology, sporting identity, esports

From Vision to Virtual Victory: Building CU Boulder's Alienware Buffalo Esports and Gaming Lounge as a Future-Ready Campus Hub

Becket Duncan, Adam Pallas and Danielle Rourke, University of Colorado Boulder

Introduction: In alignment with the 2025 Esports Research Network Conference theme, "Future Realities: Esports as a Global Lab," this session explores the creation and evolution of the CU Boulder Alienware Buffalo Esports and Gaming Lounge - a leading campus initiative that bridges industry innovation, student engagement, and academic potential. This presentation, co-led by Danielle Rourke (CU Boulder and former Dell/Alienware collaborator), Adam Pallas (Senior Coordinator for Gaming Programs), and Dr. Becket Duncan (Student Life Research Analyst), offers a behind-the-scenes look at how a bold vision became a fully operational, future-facing esports and gaming facility.

Purpose: The Alienware Buffalo Esports & Gaming Lounge opened in early 2024 as the university's first dedicated gaming space, made possible through a strategic partnership with Dell Technologies and Alienware. The session will trace the journey from ideation and proposal development - sparked by cross-sector collaboration and student demand - through design, implementation, and ongoing operations all while centering and operationalizing inclusive excellence in gaming. We will provide institutional qualitative and quantitative data that detailed how leadership made decisions to benefit student success. Attendees will gain insight into the unique challenges and opportunities of launching a university-affiliated gaming center, including stakeholder alignment, space planning, technology integration, operationalizing social justice in gaming, and community-building.

Methods and Results: Danielle will share her perspective from the industry side, having worked directly with Alienware to initiate and shape the proposal, aligning institutional goals with cutting-edge gaming infrastructure. Adam will provide an on-the-ground view of the Gaming Lounge's daily operations, programming, and student impact, highlighting how the space has become a vibrant hub for all gamers from any background and any playstyle. Becket will discuss the experiences of gamers outside of the gaming lounge, including their feelings of belonging and mattering to CU, their satisfaction with making friends, utilization of curricular and co-curricular resources, and their intent to return to CU in the future. This session will also explore how the lounge functions as a "global lab" in its own right, serving as a testbed for inclusive design, digital literacy, and interdisciplinary collaboration. From hosting tournaments and workshops to supporting research on gaming culture and student engagement, the lounge exemplifies how physical spaces can catalyze virtual futures.

Key takeaways for attendees will include:

- Strategies for building cross-functional partnerships between academia and industry.
- Lessons learned in designing and launching a campus esports facility.
- Insights into student engagement, programming, and operational sustainability.
- Reflections on the role of gaming spaces in shaping future-ready learning environments.
- How a gaming lounge fits in the larger ecosystem of a college environment

Significance: Whether you're an esports researcher, campus leader, or practitioner looking to launch or evolve a similar initiative, this session offers practical guidance and inspiration grounded in real-world experience. CU Boulder's journey demonstrates how esports infrastructure can be more than a space; it can be a catalyst for innovation, inclusion, and global connection.

Keywords: tech, lab, sponsorship, engagement, partnerships

Charisma in Temporary Teams: The Role of Leadership in Semi-Professional eSports Team Players' Career Development

Dinara Tokbaeva, Jönköping International Business School (JIBS)

This paper explores the role and function of charisma in the context of semi-professional eSports teams that aim to enter the professional eSports ranks. The challenges of building a professional career in eSports have been recognized by career development scholars. Semi-professional eSports teams are result-oriented temporary organizations where most interactions among players happen virtually and some occur face-to-face. This research investigates how competitive CS:GO and LoL semi-professional teams are formed, organized and led, and how differently they handle tensions. The role of charisma comes into play as these temporary organizations undergo crises before, during, and after the eSports tournaments. 20 interviews were conducted face-to-face and online with players from various geographical settings. Semi-professional teams were chosen according to their placements in local tournaments. Following the five-year tournament progress and rankings of the researched semi-professional teams in 2020-2025, this paper's findings suggest implications of charisma for temporary organizations' development. Results are applicable to eSports and other result-oriented temporary team environments highlighting the consequences of charisma in temporary teams for broader management and organization theory development.

Keywords: charisma, temporary teams, professional eSports, semi-professional eSports, career development

Netnography as a Tool to Achieve Sustainable Development Goals (SDGs): Reflecting Strategies for Esports Organizations

Leonardo Colares Castro and Patrícia Rafaeli Lopes, Unisinos Business School

Introduction: Esports, an industry valued in the billions, presents a compelling paradox: while it offers immense commercial opportunities, key sustainability issues remain unresolved. Current discourse highlights that esports face challenges regarding their environmental impact and social inequalities, particularly in employment practices and earnings distribution (McLeod et al., 2022). Also, studies have revealed a lack of a cohesive approach focusing on sustainable strategies in esports (Nyström et al., 2022). Much remains unknown about strategies that esports organizations can adopt to align with SDGs to reach international markets. Engaging with specific netnographic methods may provide insights that not only enhance operational practices but also foster community engagement aligned with the SDGs, as netnographic sensibility enables the researcher to comprehend multimedia content behaviorally and culturally (Kozinets et al., 2018).

Purpose/Research Question: This research presents an urgent question: How can this sector contribute to achieving SDGs? Likewise, this research aims to explore how netnography can inform esports organizations in implementing strategies aligned with SDGs.

Methods: The study employs a narrative review design to synthesize how netnography can be used as a tool to help esports organizations and teams reach the SDGs. Data were analyzed through thematic analysis using Taguette software, focusing on key narratives and emerging patterns in esports, online communities, platforms, and SDGs that could be applied to the context of netnographic approaches.

Results: The research identifies five significant approaches within esports that align with the SDGs and are effectively analyzed through netnography. These approaches include innovative approaches in service sector through knowledge sharing (McCauley et al., 2025; Koch et al., 2020; Rahman et al., 2025; Williams et al., 2021), consumption in international markets (Sharma, 2024; Ding & Chen, 2023; Lehnert et al., 2022; Kranmer et al., 2021; Seo, 2013), societal challenges such as gambling and inequality (Riatti & Thiel, 2022; McLeod et al., 2022; Sweeney et al., 2021), human resource management and governance between interorganizational relationships with teams (McCauley, 2025; Murray et al., 2022; Peng et al., 2020; Wong et al., 2022), and player learning experiences and training in esports (Dirin et al., 2023; Chang et al., 2024; Komatsu et al., 2021).

Discussion/Conclusion: The identified approaches within esports significantly contribute to various SDGs. By promoting innovative service strategies focused on knowledge sharing, esports teams can

enhance local economic growth and foster inclusive and sustainable communities, correlating with SDG 8. Additionally, consumption in international markets can promote responsible consumption, vital for achieving SDG 12. Addressing societal challenges like gambling regulations and inequality directly aligns with SDG 10. In enhancing human resource management through interorganizational collaboration, esports teams can embody SDG 17, fostering synergy across sectors for more sustainable outcomes. Finally, improving player learning experiences and training contributes to SDG 4, ensuring that all individuals have access to quality educational opportunities in the esports realm. Netnography serves as a critical tool that captures voices, faces, intentions, and goals of brand-related discussions (Kozinets et al., 2018). It enables organizations to comprehend situations in which access to cultural realities, such as understanding community members' thoughts, brand and product perceptions, and themes of interest (Jawecki & Fuller, 2008).

Significance: This research demonstrates how netnography can guide esports practitioners in developing effective strategies for online communities and digital platforms, promoting responsible practices.

Keywords: sustainable development goals, netnography, esports, innovation, international markets

References

- Chang, Y. K., Chen, K., & Li, Z. (2024). Systematic Framework for Esports Training: Informing eSports Training with the Learning Sciences. *Simulation & Gaming*, 55(1), 82-108. <https://doi.org/10.1177/10468781231219938>
- Ding, Y., & Chen, C. L. (2023). Internationalization strategies and dynamic capabilities of platform companies - A case study of the game industry. *Organizational Dynamics*, 52(2), 100980. <https://doi.org/10.1016/j.orgdyn.2023.100980>
- Dirin, A., Nieminen, M., Laine, T. H., Nieminen, L., & Ghalebani, L. (2023). Emotional Contagion in Collaborative Virtual Reality Learning Experiences: An eSports Approach. *Education and Information Technologies*, 28(11), 15317-15363. <https://doi.org/10.1007/s10639-023-11769-7>
- Jawecki, G., & Fuller, J. (2008). How to use the innovative potential of online communities? Netnography – an unobtrusive research method to absorb the knowledge and creativity of online communities. *International Journal of Business Process Integration and Management*, 3(4), 248-255. <https://doi.org/10.1504/IJBPIIM.2008.024982>

- Koch, N., Pongratz, S., McCauley, B., & Achtenhagen, L. (2020). 'Smashing it': How user entrepreneurs drive innovation in esports communities. *International Journal of Esports*, 1(1), 1-15. <https://www.ijesports.org/article/23/html>
- Komatsu, M., Matsumoto, T., & Prowant, C. (2021). Learning through Esports in Innovation Practice on Electrical Technology. *Procedia Computer Science*, 192, 2550-2557. <https://doi.org/10.1016/j.procs.2021.09.024>
- Kozinets, R. V., Scaraboto, D., & Parmentier, M. A. (2018). Evolving netnography: How brand auto-netnography, a netnographic sensibility, and more-than-human netnography can transform your research. *Journal of Marketing Management*, 34(3-4), 231-242. <https://doi.org/10.1080/0267257X.2018.1446488>
- Kramer, K., Wagner, D., & Scheck, B. (2021). Reaping the digital dividend? Sport marketing's move into esports: insights from Germany. *European Journal of International Management*, 15(2-3), 339-366. <https://doi.org/10.1504/EJIM.2021.113265>
- Lehnert, K., Walz, A., & Christianson, R. (2022). The booming eSports market: a field day for fans. *Journal of Business Strategy*, 43(2), 122-128. <https://doi.org/10.1108/JBS-07-2020-0159>
- McCauley, B. (2025). Exploring esports as a platform to develop organizational teams: the case of Valorant. *Team Performance Management: An International Journal*, 0(0), 1-14. <https://doi.org/10.1108/TPM-09-2024-0110>
- McCauley, B., Berndt, A., Helme Falk, M., & Hedlund, D. (2025). Innovation in the esports servicescape: a media business research agenda. *Journal of Media Business Studies*, 22(2), 87-117. <https://doi.org/10.1080/16522354.2024.2378392>
- McLeod, C. M., Xue, H., & Newman, J. I. (2022). Opportunity and inequality in the emerging esports labor market. *International Review for the Sociology of Sport*, 57(8), 1279-1300. <https://doi.org/10.1177/10126902211064093>
- Murray, S., Birt, J., & Blakemore, S. (2022). eSports diplomacy: towards a sustainable 'gold rush'. *Sport in Society*, 25(8), 1419-1437. <https://doi.org/10.1080/17430437.2020.1826437>
- Nyström, A. G., McCauley, B., Macey, J., Scholz, T. M., Besombes, N., Cestino, J., Hiltcher, J., Orme, S., Rumble, R., & Törmänen, M. (2022). Current issues of sustainability in esports. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/94/html>
- Peng, Q., Dickson, G., Scelles, N., Grix, J., & Brannagan, P. M. (2020). Esports Governance: Exploring Stakeholder Dynamics. *Sustainability*, 12(19), 1-15. <https://doi.org/10.3390/su12198270>

- Rahman, M. F. W., Peerzadah, S. A., Durman, T. Y., & Widiyanto, S. (2025). Game on for innovation: a cross-country study on how eSports drive knowledge sharing and innovative behavior. *Global Knowledge, Memory and Communication*. <https://doi.org/10.1108/GKMC-07-2024-0430>
- Riatti, P., & Thiel, A. (2022). The societal impact of electronic sport: a scoping review. *German Journal of Exercise and Sport Research*, 52(3), 433-446. <https://doi.org/10.1007/s12662-021-00784-w>
- Seo, Y. (2013). Electronic sports: A new marketing landscape of the experience economy. *Journal of Marketing Management*, 29(13-14), 1542-1560. <https://doi.org/10.1080/0267257X.2013.822906>
- Sharma, S. (2024). Global Trends in Virtual Luxury: Examining Avatar Identification, Virtual Materialism, and Status Consumption in Online Gaming. *Journal of Global Marketing*, 37(4), 282-303. <https://doi.org/10.1080/08911762.2024.2375709>
- Sweeney, K., Tuttle, M. H., & Douglas Berg, M. (2021). Esports Gambling: Market Structure and Biases. *Games and Culture*, 16(1), 65-91. <https://doi.org/10.1177/1555412019872389>
- Williams, D., Tutka, P., Gawrysiak, J., & Jenny, S. (2021). NCAA e-sports 20XX: an analysis of radical innovation adoption through firm collaboration. *International Journal of Sport Management and Marketing*, 21(1-2), 76-102. <https://doi.org/10.1504/IJSMM.2021.114167>
- Wong, D., & Meng-Lewis, Y. (2022). Esports: an exploration of the advancing esports landscape, actors and interorganisational relationships. *Sport in Society*, 26(6), 943-969. <https://doi.org/10.1080/17430437.2022.2086458>

Holistic Leadership in Esports Coaching the Changing Landscape of Esports Coaching

Cameron Vanloo, University of Staffordshire; Zuzanna Hejduk-Mostowy, Fundacja Sportu Pozytywnego
/ Positive Sport Foundation

This abstract examines the crucial and evolving role of leadership within the group of esports coaches, focusing specifically on the coach's impact on team and individual performance. It aims to synthesize insights from a range of academic and professional sources to define the key traits of an effective esports coach across presented, internalised and perceived leadership styles. The literature indicates that successful coaching extends far beyond simple game knowledge and requires a comprehensive, holistic approach, which requires knowledge and understanding in areas of leadership and mental preparation.

In the tactical domain, coaches are instrumental in providing strategic direction and fostering a cohesive team synergy. Unlike traditional sports, esports often involves rapidly changing game metas, requiring coaches to be constant learners and adapt their strategies with every patch and update (Watson et al 2024). Their role includes meticulous in-game analysis, developing rigorous training schedules, and overseeing practice sessions to ensure players are constantly improving. They must also formulate strategies based on their team's unique strengths and the weaknesses of their opponents. This strategic vision is a cornerstone of effective leadership, as it provides a clear path to victory and ensures that all team members are aligned on a common goal (Bubna et al 2022). A successful coach can distill complex game mechanics and macro-level strategies into clear, understandable directives, transforming a collection of skilled players into a high-functioning unit.

Beyond the tactical aspects, the mental demands of esports necessitate a strong focus on psychological leadership. Esports athletes face unique pressures, including performance anxiety, burnout, and "tilt" (a state of frustration that impairs decision-making). An effective coach, often in collaboration with a sports psychologist, acts as a mentor and emotional anchor, helping players develop the mental resilience needed to perform under pressure (Sabtun et al 2022). Coaches must also build trust and a positive team culture, handling interpersonal conflicts and maintaining morale, particularly during difficult periods. The ability to manage these mental and emotional challenges is often the differentiator between a good team and a championship-calibre one (Abbott Sport Psychology, 2024).

Finally, the most effective leaders also embrace a mentorship role, supporting the holistic development of their players. The professional esports career can be intense and short-lived, with players often starting at a young age. A coach's responsibility, therefore, extends to preparing players for life both within and

beyond their professional career (Esports Player Foundation, 2025). Coaches and support staff have a significant role in preparing athletes for career transitions, highlighting organizational responsibility for athletes' vocational, psychosocial, and post-sport development, not solely their performance (Stambulova & Henriksen, 2025, Sandardos & Chambers, 2019). This involves guiding players on lifestyle choices, maintaining individual PR, caring for professional and private relationships, sleep and health hygiene, nutrition, and physical fitness, all of which are crucial for maintaining peak performance, upholding wellbeing and transitioning between roles and out to retirement. Furthermore, coaches play a vital role in career planning, providing guidance on "dual careers" that balance gaming with education or other professional pursuits. By taking a genuine interest in their players' overall well-being, coaches foster a sense of loyalty and commitment that drives long-term success (Hong 2023). In this way, leadership in esports is not just about winning games, but about building and developing resilient, well-rounded individuals.

Keywords: coaching, cognitive psychology, leadership

References

- Abbott, C. (2024). Esports psychologist | Pro gaming mental coaching for competitive gamers. AbbottSportPsy. <https://www.abbottsportpsy.com/esports>
- Bubna, K., Trotter, M. G., Watson, M., & Polman, R. (2023). Coaching and talent development in esports: a theoretical framework and suggestions for future research. *Frontiers in Psychology*, 14, 1191801.
- Hong, H. J. (2023). eSports: the need for a structured support system for players. *European Sport Management Quarterly*, 23(5), 1430-1453.
- Sabtan, B., Cao, S., & Paul, N. (2022). Current practice and challenges in coaching Esports players: An interview study with league of legends professional team coaches. *Entertainment Computing*, 42, 100481.
- Stacey S. Sandardos, Timothy P. Chambers, "It's not about sport, it's about you": An interpretative phenomenological analysis of mentoring elite athletes, *Psychology of Sport and Exercise*, Volume 43, 2019, Pages 144-154, <https://doi.org/10.1016/j.psychsport.2019.02.003>.
- Stambulova, N., & Henriksen, K. (2025). Career transitions in sport: Bridging holistic developmental and ecological approaches. *Psychology of Sport and Exercise*, 80, Article'102900. <https://doi.org/10.1016/j.psychsport.2025.102900>

Watson, M., Jenny, S. E., & Johnson, T. (2024). Esports coaching. In Routledge handbook of esports (pp. 203-213). Routledge.

Game On Legal: Governance, AI, and Hybrid Models Transforming Esports in Latin America

David Alonso, GameMetron

Introduction: Esports is not just a game—it is one of the fastest-growing industries in the world, and Latin America is at its epicenter. Fueled by a passionate player base and rapid digital adoption, the region is experiencing a surge in competitive gaming. At the same time, the integration of generative artificial intelligence (AI) into training, moderation, and performance analysis is transforming the way esports is played, managed, and regulated. While these advances open doors to innovation, they also pose serious legal and business challenges. Without proactive measures, the industry risks facing a “game over” in areas such as regulation, rights protection, and long-term sustainability (Jenny & Manning, 2017; Santiváñez, 2025).

Purpose / Research Questions: This research seeks to address three critical questions:

1. How does generative AI impact legal and business practices in Latin American esports?
2. Beyond intellectual property, what new legal and ethical risks are emerging?
3. How can hybrid governance and business models adapt to ensure an inclusive, sustainable, and competitive ecosystem?

Methods: We employ a qualitative, interdisciplinary methodology that blends legal analysis, industry insight, and practical application:

- Documentary analysis of regional regulations and landmark AI-related cases in esports.
- Semi-structured interviews with developers, lawyers, players, and leading esports platforms across Latin America.
- Case study of hybrid models—such as GameMetron Legal Insurance—to evaluate their capacity to democratize legal access and support sector sustainability.

Results: Preliminary findings anticipate the identification of legal and ethical “grey zones,” including:

- Inaccurate automated sanctions that compromise competitive fairness.
- Risks of personal data misuse in AI-assisted training and analytics.

Additionally, hybrid business strategies combining formal regulation with agile, innovation-driven practices are expected to emerge as key tools for building industry resilience and inclusion.

Discussion / Conclusion: Our analysis underscores the urgency of creating flexible legal frameworks capable of adapting to technological change, while safeguarding rights and ensuring economic viability. Collaborative governance—where regulators, industry actors, and civil society share responsibility—will be essential to transform Latin American esports into a fairer, more sustainable, and globally competitive market.

Significance / Practical Implications: This study aims to move beyond theory, offering practical guidelines and actionable tools for stakeholders at every level—from grassroots communities to global publishers. By addressing the legal and ethical implications of AI in esports, we seek to foster trust, professionalism, and innovation in a region poised to become a global leader in competitive gaming. The message is clear: if we get the rules right now, Latin America will not just play the game—it will change it (Suzor, 2018).

Keywords: Esports, Legal Governance, Generative AI, Hybrid Business Models, Digital Transformation

References

- Funk, D. C., Pizzo, A. D., & Baker, B. J. (2018). eSport Management: Embracing eSport Education and Research Opportunities. *Sport Management Review*. <https://doi.org/10.1016/j.smr.2017.07.008>
- Gillespie, T. (2018). *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media*. Yale University Press. <https://yalebooks.yale.edu/book/9780300261431/custodians-of-the-internet/>
- Global Brands Magazine (2025). Global Esports Evolution: What's Next for the Industry in 2025? <https://www.globalbrandsmagazine.com/esports-industry-in-2025/>
- Hamari, J., & Sjöblom, M. (2017). What is eSports and why do people watch it? *Internet Research*. <https://doi.org/10.1108/IntR-04-2016-0085>
- Hartmann Capital (2025). GenAI in Gaming Industry Report: Q4 2024. <https://www.hartmanncapital.com/news-insights/genai-in-gaming-industry-report-q4-2024>
- Heidenreich et al. (2023). Governance in Esports: Studies on Organizational Legitimacy and Stakeholder Demands. <https://goo.su/vbeGL>
- Jenny, S., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual(ly) Athletes: Where eSports Fit Within the Definition of "Sport". *Quest*, 69(1), 1-18. <https://doi.org/10.1080/00336297.2016.1144517>

- Levine, J. (2025). Industry Predictions for Esports in 2025 - Legal Considerations in Revenue Innovation.
<https://sportslitigationalert.com/industry-predictions-for-esports-in-2025-legal-considerations-in-revenue-innovation/>
- Santiváñez, D. A. (2025). Gobernanza legal y modelos híbridos en esports: perspectivas desde Latinoamérica [Manuscript in progress].
- Suzor, N. (2018). Digital Constitutionalism: Using the Rule of Law to Evaluate the Legitimacy of Social Media Platforms. Social Media + Society.
<https://journals.sagepub.com/doi/10.1177/2056305118787812>

Digital Gaming and Physical Activity Relationship Scales: Validity and Reliability

Kwok Ng, University of Turku; Miikka Sokka, University of Turku; Pauliina Husu, UKK institute; Sami Kokko, University of Jyväskylä; Pasi Koski, University of Turku

Introduction: As physical activity (PA) is to sport, digital gaming (DG) is to esports. Both are common pastimes that create social worlds for young people. Yet, quantitative scales to measure perceptions of digital gaming relationships (DGR) and physical activity relationships (PAR) are in their infancy. As part of the process to develop scales, there is a need for scientifically sound items in order to understand the relationship between DGR and PAR.

Purpose: The aim of this study was to investigate the validity and reliability properties of the DGR and PAR scales used by adolescents. Furthermore, the development of the scales side-by-side demonstrates the digital transformation of society by seeking similar relationships in both PA and DG. Both behaviours are heavily gendered, hence differences in PAR and DGR by gender are also examined, along with tests of association between relationships and behaviour frequency.

Methods: A convenience sample of high school students between 16-19y old were recruited to the study. They completed a questionnaire on two occasions, with a 3-week gap between. Items ($n=44$) from 7 dimensions for PA and DG contexts were phrased, "Which of the following things are important or less important to you in your own gaming/physical activity?" with a six-point scale. Data were analysed via intraclass correlation coefficient (intra-rater reliability) first for usable items, and then principal component analyses (convergent validity) to identify usable dimensions in both DG and PA. T-tests were used to determine gender differences in the DGR and PAR dimensions and linear associations were examined with gaming and PA behaviour.

Results: After combining the two surveys together, usable data from 92 students were used (57%) for analyses. From the 88 items (44 in DG, 44 in PA), 7 items had low test-retest reliability ($ICC < 0.5$) in either DGR or PAR and were removed from subsequent analyses. There were five dimensions from the remaining items: competitiveness, social aspects, self-development, mental health, and functional features. Cronbach alphas for each dimension ranged from 0.74 to 0.94. Males scored statistically significantly higher in four of the five dimensions than females. Statistically significant linear associations were observed between four dimensions of DGR (functional features, mental health, self-development, social aspects) and gaming frequency. Further associations were reported between competitiveness and mental health PAR dimensions and PA frequency.

Discussion: After reducing DGR and PAR instruments to 18 items each, with 5 dimensions, there was acceptable reliability and validity for the scale to be used by high school students. DGR and PAR could be used as a way to detect individuals' relationships with the multidimensional concepts of DG and PA respectively. Scores of the scales were higher amongst males than females in four of the five dimensions and DGR dimensions were associated with gaming, with PAR dimensions also associated with PA.

Significance: To conclude, the DGR and PAR scales seem to be suitable for use by adolescents in surveys. Such scales can be useful to understand the digital transformation of their social worlds.

Keywords: methodologies, esports, well-being, digital transformation, adolescents

Being 'Woman Enough' in Esports: Authenticity, Gatekeeping, and Trans Inclusion in Competitive Gaming

Burcu Gumus, Aarhus University

Although esports is a form of competitive activity that does not rely on physical strength or hormonal composition, gender categories such as "woman" or "man" remain central to how tournaments, organisers, and teams define eligibility and structure participation. Women's and "marginalised gender" circuits, while often framed as mechanisms to promote diversity and equity, frequently become sites where implicit or explicit criteria of "being woman enough" or "being man enough" are enacted. These criteria are rarely grounded in measurable performance advantages; rather, they are shaped by social norms, institutionalised expectations, and community-level practices. This paper interrogates why gender categories continue to be policed in a competitive environment where physiological differences cannot serve as a legitimate rationale, and what, in practice, constitutes "being woman enough" or "being man enough." The analysis draws on West and Zimmerman's (1987) concept of doing gender, which frames gender as a situated accomplishment, an ongoing social practice through which individuals are held accountable to normative expectations. Within this framework, gender is not a fixed attribute but a performance that must be continually recognised and validated by others. Complementing this, the study employs Bettcher's (2007) and Serano's (2007) discussions of authenticity tests and passing to examine the criteria—appearance, documentation, and behaviour, through which legitimacy in a gender category is granted or denied. Using a qualitative multiple-case study design, the paper analyses tournaments in which trans participation has been contested or regulated. Data sources include official rulebooks, eligibility statements, and identity verification procedures from major women's and marginalised-gender leagues; public statements from organisers, teams, and publishers; broadcast commentary and live chat transcripts; as well as news coverage and social media discourse. Cases are compared across three analytical levels: institutional (rules, policies, verification protocols), community (team practices, peer regulation), and discursive (media narratives, audience commentary). Preliminary findings indicate that gender categories in esports are maintained through three interrelated mechanisms. First, institutional mechanisms involve eligibility rules that explicitly or implicitly exclude trans participants, identity verification processes requiring legal or medical proof, and review panels applying opaque criteria. Second, community-level practices include misgendering by peers, role assignment within teams based on perceived gender authenticity, and social pressures to disclose or conceal one's gender identity. Third, discursive framing draws on narratives of "fairness" and "safety" to justify exclusion, alongside accusations of deception or "unfair advantage"

directed at trans women competing in women's leagues. These mechanisms persist even in competitions where physical differences have no demonstrable effect on performance outcomes, suggesting that gender segregation in esports serves functions beyond competitive balance – functions tied to the preservation of binary gender norms and the policing of identity boundaries. By integrating doing gender with authenticity test frameworks, the study conceptualizes these practices as forms of affective and bureaucratic gatekeeping that enforce conformity to normative gender categories. This analysis positions esports not merely as a skill-based competitive arena but as a contested social field (Bourdieu, 1993) where identity categories are actively produced, maintained, and challenged. The paper contributes to scholarship on diversity, equity, and inclusion in digital sport by offering an empirically grounded typology of gendered exclusion mechanisms and a conceptual model for understanding gendered legitimacy in non-physically segregated competitive contexts. It also advances policy-relevant insights for tournament governance, highlighting the need for transparent, inclusive eligibility criteria, identity verification processes that respect privacy and self-identification, and robust community moderation to counteract transphobic discourse. In doing so, the study addresses a significant gap in esports research, which has thus far given limited attention to the experiences of trans and non-binary competitors in formal competitive structures, despite the growing visibility of these issues in both professional and grassroots esports settings.

Keywords: Esports, Gender authenticity, Doing gender, Passing, Trans inclusion

References

- Bettcher, T. M. (2007). Evil deceivers and make-believers: On transphobic violence and the politics of illusion. *Hypatia*, 22(3), 43–65. <https://doi.org/10.1111/j.1527-2001.2007.tb01090.x>
- Bourdieu, P. (1993). *The field of cultural production*. Columbia University Press.
- Serano, J. (2007). *Whipping girl: A transsexual woman on sexism and the scapegoating of femininity*. Seal Press.
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & Society*, 1(2), 125–151. <https://doi.org/10.1177/0891243287001002002>

Parallel Play: Exploring the Similarities in Participation Between Esports and Traditional Sports

Miikka Sokka, Kwok Ng and Pasi Koski, University of Turku

Digital gaming and esports (DG) can be understood as a modern extension of traditional physical activity and sports (PA), reflecting a continued human tendency toward structured play and engagement. This digital shift preserves core elements such as competitive formats, team dynamics, and rule-governed environments—structures that have long defined participation in physical sports. These parallels suggest that the appeal of DG is not a departure from PA, but rather an evolution that recontextualizes familiar elements, enabling individuals to seek similar psychological gratifications in more diverse and accessible ways. Despite this, existing literature provides limited empirical insight into how individuals perceive this transformation, particularly whether the aspects they value in digital gaming align with those they appreciate in physical sports.

Drawing on the Digital Gaming Relationship (Sokka 2025) and Physical Activity Relationship (Koski 2008) frameworks, this study investigates whether individuals value elements such as social interaction, competition, or well-being as significant in the domains of DG and PA. The data comprise a convenience sample of 494 Finnish adolescents. Cross-sectional data were collected through a questionnaire with items related to DG and PA behaviors. The perceived significance of DG and PA were assessed using a similar set of dimensions and items, first presented in the context of DG and then in PA. The instrument consisted of five dimensions (competitiveness, social aspects, self-development, mental health, and functional features) each measured with three items and presented as component mean scores. Mean scores were calculated for each dimension to evaluate perceived significance in both domains. Statistical analyses included independent samples t-tests to examine gender differences and Pearson correlation coefficients to explore the relationship between the dimensions of the two domains. An additional analysis was conducted excluding participants who reported being inactive in both DG and PA. Based on the DGR and PAR frameworks, results for the 'active' subsample ($n = 193$) are expected to differ compared to the whole sample due to their more regular participation in both domains.

Participants perceived PA as more important than DG, and males perceived both GA and PA as more important than females. Moreover, all the dimensions had statistically significant positive correlations ($r = .20-.33$, $p < .01$) between DG and PA. Among the 'active' subsample, both the mean scores and correlation coefficients were higher compared to the whole sample across all the dimensions ($r = .31-.50$, $p < .01$). The correlations between the DG and PA dimensions were the strongest ($r = .34-.59$, $p < .01$) among the

'active' males ($n = 92$), whereas only three dimensions had statistically significant correlations ($r = .22-.51$, $p < .05$) among the 'active' females ($n = 95$).

In conclusion, adolescent males seem to consider similar characteristics as significant in digital gaming and physical activity. The results on gender differences align with previous research showing that gaming is a gendered activity in Finland, with males spending approximately twice as much time playing digital games compared to females (Kinnunen et al. 2024). The subgroup findings support the assumptions of PAR and DGR frameworks, indicating that the degree of engagement in an activity is positively associated with the significance individuals attribute to it. Further research on the links between digital gaming, esports, and traditional sports is recommended to better understand their intertwined nature and potential to complement each other.

Keywords: Digital Gaming Relationship, esports, sports, significance, adolescents

References

- Kinnunen, J., Prykäri, S. & Mäyrä, F. (2024). Pelaajabarometri 2024: Seurapelaamisen vastaisu. TRIM Research Reports 32. Tampere: Tampereen yliopisto.
- Koski, P. (2008). Physical activity relationship (PAR). *International Review for The Sociology of Sport*, 43(2), 151–163. <https://doi.org/10.1177/1012690208095374>
- Sokka, M., Ng, K., Kokko, S., & Koski, P. (2025). Introduction of the Digital Gaming Relationship. *Media and Communication*, 13, Article 8738. <https://doi.org/10.17645/mac.8738>

Notes on eSports and Sports Broadcasting

Jéssica Barbosa Ferreira, Wanderley Marchi Júnior and Larissa Jensen Vilarinho, Universidade Federal do Paraná

In contemporary society, sport has assumed the role of a globalized and commodified product, structured through supply and demand, emotional appeal, media plasticity, and broadcast viability (Betti, 1998; Marchi Júnior, 2015). Professional electronic games, known as esports, have risen unequivocally as a contemporary discipline. Alongside the growth of video games, the capacity for spectacularization has been intrinsic – from arcades to consoles, PCs, and livestreaming platforms – given that watching others play has proven both captivating and entertaining (Taylor, 2018). With investment in high-quality broadcasting, competitions turn into major spectacles. The features of contemporary sports are extending fully into the esports domain, and esports are continually reshaped through the development of digital technologies. As a born-digital competitive practice, esports redefine the spectacle dynamics of contemporary traditional sports. Specifically, this research centers on the following questions: What elements are unique to esports, and what elements are shared with traditional sports in terms of spectacularization? This study will adopt a qualitative approach, centering on the comparative examination of the broadcasting content of two Brazilian casters: Bárbara Micheletto (Babi Micheletto) and Camila Chun Curci (Chun)—both professional broadcasters who have worked with sports and esports events. It is expected that esports will incorporate elements associated with sports spectacle from traditional sports, such as competition formats, live commentary by professional casters, and the broadcasting format. We consider here that the contemporary digital technologies that come with the twenty-first century influence and reshape society and its elements; thus they also reshape sports. This means that esports, as a new and contemporary sport, can simultaneously borrow from traditional sports and influence them. Characteristics like livestream chats, multiplatform integration, and dynamic camera work are expected to be found. This research, though still underway, is expected to show that sports and esports have a symbiotic relationship, and that they influence each other in terms of spectacularization. Esports represent a participatory culture, where consumers are active participants through media platforms. In a globalized world, it is crucial to understand old concepts and ideas in light of new technologies and the changing ways in which the world works. Consequently, revisiting and reinterpreting older elements such as sports is essential. Esports, as a contemporary element, emerged within a globalized world and, with its economic and sociocultural

significance, can influence and reshape other elements. Therefore, it is important to understand how this happens and whether it occurs in practice.

Keywords: esports, sports, spectacle, broadcasting, live-streaming

References

- Betti, M. (1998). A janela de vidro: esporte, televisão e educação física. Papirus.
- Marchi Júnior, W. (2015). O esporte “em cena”: Perspectivas históricas e interpretações conceituais para a construção de um modelo analítico.. *The Journal of the Latin American Socio-Cultural Studies of Sport*, 5(1), 46–67.

The Underrepresentation of Women in Esports Leadership Positions: Exploring the Barriers and Facilitating Factors

Lucy Zhu, University of Northampton

Introduction: Existing esports gender studies have primarily focused upon gender inequality from the perspective of esports participants and players (Rogstad, 2022). Little knowledge exists regarding gender inclusion and leadership in esports (Piggott & Tjønndal, 2023), especially the facilitating factors. The current study deepens understanding regarding the underrepresentation of women in esports leadership positions by exploring the perceived barriers to, and facilitating factors for, female representation in esports leadership positions.

Purpose: The study develops a conceptual model that captures the leadership journey in esports. Whereas the glass ceiling phenomenon suggests that obstacles are fixed in a particular place for women (Hartzell & Dixon, 2017), wayfinding captures the potential for women to be pushed out, or exit, their career trajectory at various levels of the pathway (e.g., before reaching or upon achieving a leadership position).

Methods: Purposive sampling was initially used to reach potential interview participants. The research was disseminated in English through esports institutions (e.g., Women in Esports), events (e.g., Esports Insider), professional esports research and practitioner networks (e.g., Esports Research Network), job finding platforms (e.g., Hivefolio) and organisations based within the researchers' existing networks. Participants were female, over the age of 18 and possessed at least three months experience in leadership or senior management positions. Subsequent snowball sampling (Gratton & Jones, 2010) was used to gain referrals for additional interviewees. Semi-structured, online video interviews were utilised and conducted between March and early August 2024. The data analysis was conducted using NVivo. Braun and Clarke's (2006) six phases of thematic analysis and 15-point criteria checklist were followed.

Results: Two primary themes were revealed as facilitating factors: personal characteristics and interpersonal support systems. Within the overarching theme of interpersonal support systems, two codes were identified: networks and mentorship. The findings echo previous research, which evidenced the importance of resilience (Piggott & Tjønndal, 2023) and mental grit (Darvin et al., 2021) for women in esports. The interpersonal support provided by gendered networks contributed towards strengthening career perseverance and continuation in the esports industry. Encompassing connections to women holding leadership positions in the esports industry, the networks built social capital through bonding (Eagly & Carli, 2007). Regarding barriers, prevailing barriers occurred within the macrosystem and exosystem. Within the macrosystem, overarching themes were gender stereotypes (subthemes included the legitimacy

deficit and role conflict) and industry culture. With the exosystemic, primary themes were organisational structures and processes (subthemes included underdeveloped organisational structures and homologous reproduction) and role conflicts.

Discussion: Contrary to Darvin et al. (2021), interviewees rarely experienced barriers to industry entry. Instead, primary barriers were experienced on the journey towards a leadership position. Borrowing from gaming terminology, the authors propose conceptualising women's esports leadership journey as a process of 'wayfinding'. In gaming, the phrase refers to players orienting within the game environment (in this context, the esports industry) and navigating towards a destination (in this context, a leadership position) utilising a series of cues.

Significance: To advance the sector, esports organisations must enhance the professionalisation of individuals (e.g., formalised concepts and strategies of human resource management) and structures/processes (e.g., a centralisation and hierarchical process of decision-making). Organisations are encouraged to implement internal, work-related practices that foster formal mentorship for existing women within the esports industry. Organisational practices, particularly informal recruitment processes, must be acknowledged and addressed to reduce homologous reproduction (Piggott et al., 2023).

Keywords: Esports, leadership, women in esports, ecological systems theory, gender study

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *The American Psychologist*, 32(7), 513–531. <https://doi.org/10.1037/0003-066X.32.7.513>
- Darvin, L., Vooris, R., & Mahoney, T. (2020). The playing experiences of esport participants: An analysis of treatment discrimination and hostility in esport environments. *Journal of Athlete Development and Experience*, 2(1), 3. <https://doi.org/10.25035/jade.02.01.03> Eagly & Carli, 2007
- Gratton, C., & Jones, I. (2010). *Research methods for sports studies*. Routledge. Hartzell & Dixon, 2017
- International Olympic Committee. (2024, July 12). IOC announces Olympic Esports Games to be hosted in the Kingdom of Saudi Arabia. International Olympic Committee. <https://olympics.com/ioc/news/ioc-announces-olympic-esports-games-to-be-hosted-in-the-kingdom-of-saudi-arabia>

- Piggott, L. V., & Tjønndal, A. (2023). “It becomes a fight against who I am, rather than what I say”: Gender, positionality, and inclusion in esports leadership. *International Review for the Sociology of Sport*, 59(3), 400–420. <https://doi.org/10.1177/10126902231206652> Rogstad, 2022
- Shah, S. (2023). Navigating gender stereotypes as educational leaders: An ecological approach. *Management in Education*, 37(3), 140–149. <https://doi.org/10.1177/08920206211021845>

Reorganizing Streamer Attribute Concepts: A Theoretical Classification Adapted to Esports Livestreaming

Jiarui (Jerry) Zhang, Universiti Putra Malaysia; Lucy Zhu, University of Northampton

Introduction: Existing literature on media figures, influencers, and streamers draws on a wide array of theoretical models and terminologies. In the era of social media, new constructs like authenticity, relatability, and perceived similarity have emerged as relevant to influencer-audience relationships (Djafarova & Rushworth, 2017; Lou & Yuan, 2019; Hu et al., 2017). Despite this conceptual richness, the field lacks a comprehensive mapping of how these concepts relate to each other, and how they apply within livestreaming platforms, especially those centered on esports content. Much of the literature borrows frameworks developed for television personalities or static social media influencers, without adjusting for the real-time, performance-based, and highly interactive nature of streaming platforms (Sjöblom et al., 2019; Wohn et al., 2018). This results in conceptual inconsistencies, redundant terminology, and gaps in theoretical clarity.

Aim and Research Questions: This paper addresses the need for a systematic review and classification of streamer attribute concepts, grounded in existing theories and tailored to the esports and livestreaming environment. The core research questions are: What conceptual dimensions have been used to describe streamer attributes in existing literature? How can these dimensions be organized into coherent categories? And how can this classification be adapted to reflect the unique characteristics of esports streamers?

Methods: This paper adopts a theory integration approach, organizing existing concepts into higher-order categories based on their meaning, usage, and relevance. A narrative literature review was conducted to identify common and recurring dimensions used to describe streamer attributes. These concepts were analyzed across disciplines – including communication, media psychology, marketing, and human-computer interaction – and grouped according to semantic similarity and functional role. As a result of this synthesis, five overarching categories are proposed: trustworthiness, expertise, affinity, attractiveness, and interactivity. These categories do not represent newly invented dimensions, but rather meta-constructs that consolidate a broad set of related terms into a coherent classification framework. For instance, familiarity, similarity, and social attractiveness are included under the umbrella of affinity, while authenticity and honesty are subsumed under trustworthiness. The interactivity category reflects the unique affordances of livestreaming, such as chat, gifting, and real-time feedback, which have no direct counterpart in traditional source models.

Results and Discussion: The proposed model offers a structured and theory-driven lens for analyzing how audiences perceive and respond to streamers. These five dimensions can be grouped into two overarching domains: a cognitive-credibility domain comprising trustworthiness and expertise, and an affective-relational domain encompassing affinity and attractiveness. Interactivity functions as a cross-domain mechanism that amplifies both cognitive evaluations and emotional engagement. This model suggests that streamer influence is not static but dynamically co-constructed through reciprocal interaction, platform affordances, and content style.

Implications: This classification model contributes to the field by offering a theoretically grounded and contextually sensitive taxonomy of streamer attributes. It helps resolve conceptual overlaps in the literature, clarifies how different dimensions relate to each other, and adapts prior models to better suit the livestreaming environment. The framework lays a foundation for future empirical work. Researchers may use the five-category structure as a guide for developing measurement scales, testing audience responses, or conducting comparative studies across platforms or cultural contexts. Practically, the classification can aid platforms, marketers, and streamers in understanding what attributes matter most in different content genres or audience segments.

Keywords: streamer attribute, esports, livestreaming, conceptual paper, esports streamer characteristics

References

- Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1–7. <https://doi.org/10.1016/j.chb.2016.11.009>
- Horton, D., & Wohl, R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry*, 19(3), 215–229. <https://doi.org/10.1080/00332747.1956.11023049>
- Hovland, C., Janis, I., & Kelley, H. (1953). *Communication and persuasion: Psychological studies of opinion change*. , .
- Hu, M, Zhang, M, & Wang, Y (2017). Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Computers in Human Behavior*, 75, 594-606. <https://doi.org/10.1016/j.chb.2017.06.006>

- Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising*, 19(1), 58–73. <https://doi.org/10.1080/15252019.2018.1533501>
- McCroskey, J., & Richmond, V. (1979). The relationships between immediacy and sociocommunicative style. *Communication Quarterly*, 27(3), 198–203. <https://doi.org/10.1080/01463377909369499>
- Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2019). The ingredients of Twitch streaming: Affordances of game streams. *Computers in Human Behavior*, 92, 20–28. <https://doi.org/10.1016/j.chb.2018.10.012>
- Wohn, D., Freeman, G., & McLaughlin, C. (2018). Explaining viewers' emotional, instrumental, and financial support provision for live streamers. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), 1–13. <https://doi.org/10.1145/3274462>

Examining the Gap of Women's Leadership in Esports: A Comparative Study with Global Sports Governing Bodies

Sam Schelfhout, Sacred Heart University; Tanya Jones, California State University, Fullerton

The pursuit of gender equality in sports has been a consistent struggle for both athletes and women in leadership positions. Both esports and traditional sports are often constructed as masculine activities, resulting in the "othering" of any participation that does not identify as male or masculine. For example, in esports, the International Esports Federation (IESF) excluded women in 2014 to "promote esports as a legitimate sport" (Friman, Ruotsalainen, & Ståhl, 2024, p. 542). Likewise, the International Olympic Committee (IOC) banned women from all track events longer than 800 meters until 1928, and did not add taekwondo, triathlon, weightlifting, and modern pentathlon for women athletes until the 2000 Sydney Olympic Games (Linden, 2015; International Olympic Committee, 2020). Taking into consideration the enduring setbacks and challenges girls and women face in both esports and traditional sports settings, the presence of women in leadership positions within governing bodies can serve as an important source of inspiration and affirmation for female participants in these activities.

Gender equality in sport leadership remains a persistent challenge in the contemporary world. While significant progress has been made in enabling women to hold positions of power in global sports organizations, there is still considerable work that needs to be done. For instance, the IOC currently has a female president and five other women sitting on the executive board, out of 15 total members. Additionally, women constitute nearly half of the membership of the governing body, holding 46 of its 107 memberships. Despite perceptions of gender equality, the IOC did not elect its first women members until 1981 and did not have a woman serve on the executive committee until 1990, nearly a century after the organization's founding (Krieger, Schultz, Parks Pieper, 2025).

Unlike global sports associations like the IOC, governing structures dedicated to esports have taken a different approach. Since the first global organizations dedicated to esports debuted, women have been involved in leadership positions in international esports governing bodies. Organizations such as the IESF (established in 2008) and the Global Esports Federation (established in 2019) have prioritized diversity at the executive level since their inception, with both bodies including women on their executive leadership teams and boards. This paper will contribute to scholarship on gender equality in esports leadership by comparing gender equality in traditional sports leadership, focusing on the IOC, and the burgeoning field of esports. How have women been involved in sport leadership since the IOC's inception, compared to women's early participation in esports leadership and governance? Can esports facilitate more progressive

gender equality in leadership? This is important to examine because women in leadership positions provide female participants a hope for their futures beyond athletics or coaching. Additionally, seeing women in leadership roles can alleviate concerns about harassment and discrimination in esports settings. While this paper explores global sports and esports organizations, the authors hope that this examination can foster positive change within smaller-scale organizations as well, including (but not limited to) community organizations, collegiate esports, and local organizations, such as Garden State Esports in New Jersey, USA. Further research into this topic could also potentially expand into leadership positions of transgender and non-binary people, especially taking into consideration the struggle to include transgender and non-binary people in both sports and esports organizations.

Keywords: gender, leadership, equality, governance, DEI, diversity, equity, inclusion

References

- Friman, U., Ruotsalainen, M. & Ståhl, M. (2024). Diversity, Equity, and Inclusion in Esports. In S. E. Jenny, N. Besombes, T. Brock, A. C. Cote, & T. M. Scholz (Eds.). *Routledge Handbook of Esports* (pp. 540-550). Routledge. <https://doi.org/10.4324/9781003410591>
- International Olympic Committee. (n.d.). Gender Equality through Time. Olympics.com. <https://www.olympics.com/ioc/gender-equality/gender-equality-through-time>
- Krieger, J., Schultz, J., & Parks Pieper, L. (2025, February 25). Symbolic or Substantive? A Critical Celebration of the New IOC President. *Nordic Sport Science Forum*. <https://idrottsforum.org/feature-kriegeretal250326/>
- Linden, A. (2015, October 8). "Not a Very Edifying Spectacle": The Controversial Women's 800-Meter Race in the 1928 Olympics. *Sport in American History*. <https://ussporthistory.com/2015/10/08/not-a-very-edifying-spectacle-the-controversial-womens-800-meter-race-in-the-1928-olympics/>

From Centralization to Adaptive Pathways: Rethinking Governance for the Olympic Esports Games

Tobias M. Scholz and Nepomuk Nothelfer, University of Agder

The upcoming Olympic Esports Games (OEG) are expected to operate under a governance model in which the International Olympic Committee (IOC) and host National Olympic Committees (NOCs) hold primary authority. This centralized structure offers consistency, control, and alignment with established Olympic practice, yet previous Olympic esports initiatives suggest that such an approach can create friction with the existing esports ecosystem. Tensions emerge around the influence of game publishers, the operational norms of competitive gaming, and the engagement of audiences who expect more interactive and dynamic event formats than traditional sport.

This presentation examines how governance for the OEG could evolve from a purely centralized structure toward more adaptive pathways that reflect the varied realities of esports delivery across countries and game titles. The central question asks how a global Olympic framework can preserve its standards while enabling flexibility in implementation.

The study applies general governance research approaches, combining multi-level governance analysis to examine the distribution of authority across international, national, and local levels, actor mapping to identify key stakeholders and their relationships, and stakeholder analysis to explore competing interests and collaboration opportunities. The analysis draws on publicly available documents, organisational announcements, and observations from previous esports events involving Olympic stakeholders, including the Olympic Esports Week in Singapore and Esports World Cup in Saudi Arabia.

The governance landscape that emerges is one in which formal authority rests with the IOC and its designated organisers, yet significant operational influence is concentrated with publishers who control game rights and competition formats. National bodies vary widely in their esports capacity, with some able to deliver complex events in partnership with their NOC, and others lacking the resources or recognition to play a meaningful role. These conditions suggest that a single governance template is unlikely to work across all contexts. Instead, the presentation proposes exploratory pathways in which authority is shared in different configurations, from NOC-led delivery that draws on structured esports expertise, to joint committees that formally integrate national esports associations, to publisher-led competitions that operate within an Olympic-sanctioned framework.

The Olympic Esports Games represent a rare opportunity to bridge the governance traditions of the Olympic movement with the rapidly evolving norms of competitive gaming. By considering adaptive

governance pathways rather than a uniform model, the OEG can create space for local expertise, strengthen legitimacy among esports stakeholders, and connect more effectively with gaming audiences, all while maintaining the cohesion and credibility of the Olympic brand. This exploratory approach offers a foundation for further research and practical experimentation as Olympic esports moves from concept to enduring institution.

Keywords: Olympic Esports Games, Governance Models, Multi-level Governance, Esports Publishers, Adaptive Pathways

Leadership in Esports – Business or Parenting?

Minna Kallinen-Kuisma, University of Jyväskylä

Introduction: The esports industry, a fusion of sports, entertainment, and business, has seen unprecedented growth in recent years. It attracts tens of thousands of professional gamers, hundreds of millions of spectators, and generates billions of dollars in global revenue (Ahn et al., 2020; Newzoo, 2024; Statista, 2018). The field also provides work for numerous groups of professionals. Simultaneously, we have a range of esports organisations operating in the same field with different economic rationale, level of organising, and understanding of leadership.

Esports organisations have typically adopted various structures and practices from other fields of sports or business, leading to diverse leadership styles (Falkenthal & Byrne, 2021; Musick et al., 2021). To develop leadership in esports organisations, it is crucial to understand their structures and leadership practices (Scholz 2019; Taylor 2015). The understanding of ethical leadership within esports is limited, both in theory and practice. This is evidenced by issues such as burnout, mental health problems, and unethical deals, which underscore the need for more responsible leadership (Nyström et al., 2022).

Purpose: This paper investigates leadership within the Finnish esports industry, with a particular focus on responsible and ethical leadership practices. By leveraging empirical data, the study aims to deepen the understanding of such practices and principles in esports and contribute to the broader discourse on ethics and leadership in digital and virtual contexts. The study highlights social responsibility, particularly concerning Generations Z and Alpha, and seeks to elucidate the principles of responsible and ethical leadership within esports communities.

This research examines esports as a profession, emphasising team-based games and leadership from the perspectives of esports teams and organisations. Team success in esports relies on good leadership, yet obstacles such as lack of management and leadership training persist (Gisbert-Pérez et al., 2024). Ethical leadership can be seen in efficient teams, providing positive results both when a team is performing well, and when they are not (Martin et al., 2022). On the other hand, Brown & Treviño (2006) state that a leader's weakness in ethical leadership does not necessarily mean they are unethical.

Methods: This research employs a qualitative strategy, collecting empirical data through thematic interviews with esports professionals and ethnographic observations at esports events. Qualitative theming and content analysis are used to interpret and explain the phenomena. In addition, analysing the leadership

metaphors used by esports professionals helps to uncover the underlying beliefs and values that shape their leadership practices (Alvesson & Spicer, 2011).

Preliminary results: The research data indicates that the understanding of ethical leadership has grown between 2018 and 2024. However, there is still need for improvement and development. It seems that esports leaders often balance between their business-driven objectives and relationship-based organising. On the other hand, both traditional and modern takes on leadership are reflected in their practices and principles. Despite the modern, technology-driven nature of esports, family-related metaphors are surprisingly frequently used to describe leadership in teams. While business orientation is emphasised at the organisational level, especially some of the middle-level leaders describe how they often find themselves in parent-like roles with their teams.

Significance: The significance of this research lies in its potential to fill a gap in the still under-researched field of esports leadership, and to inform and shape ethical leadership practices in a rapidly evolving sector, thereby contributing to the development of more responsible and sustainable esports communities.

Keywords: Esports, leadership, social responsibility, responsible leadership, ethical leadership

References

- Ahn, J., Collis, W., & Jenny, S. (2020). The one billion dollar myth: Methods for sizing the massively undervalued esports revenue landscape. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/15/html>
- Alvesson, M. & Spicer, A. (Eds.) (2011). *Metaphors we lead by. Understanding leadership in the real world*. Routledge.
- Brown, M. E. & Treviño, L. K. (2006). Ethical leadership: A review and future directions. *The Leadership Quarterly* (17)6, 595–616. <https://doi.org/10.1016/j.leaqua.2006.10.004>
- Falkenthal, E. & Byrne, A. M. (2021). Distributed Leadership in Collegiate Esports. *Simulation & Gaming*, 52 (2), 185–203. <https://doi.org/10.1177/10468878120958750>
- Gisbert-Pérez, J., García-Naveira, A., Martí-Vilar, M. & Acebes-Sánchez, J. (2024). Key structure and processes in esports teams: a systematic review. *Current Psychology* (2024) 43, 20355–20374. <https://doi.org/10.1007/s12144-024-05858-0>
- Martin, S. R., Emich, K. J., McClean, E. J., & Woodruff, C. T. (2022). Keeping Teams Together: How Ethical Leadership Moderates the Effects of Performance on Team Efficacy and Social Integration. *Journal of Business Ethics* (2022) 176, 127–139. <https://doi.org/10.1007/s10551-020-04685-0>

- Musick, G., Xhang, R., McNeese, N. J., Freeman, G. & Prabha Hridi, A. (2021). Leveling Up Teamwork in Esports: Understanding Team Cognition in a Dynamic Virtual Environment. *PACM on Human-Computer Interaction* 5, CSCW 1, Article 49 (April 2021), 30 pages. <https://doi.org/10.1145/3449123>
- Newzoo. (2024). Data Reports. <https://newzoo.com>
- Nyström, A.-G., McCauley, B., Macey, J., Scholz, T. M., Besombes, N., Cestino, J., Hiltcher, J., Orme, S., Rumble, R., & Törhönen, M. (2022). Current issues of sustainability in esports. *International Journal of Esports*, 1(1). <https://www.ijesports.org/article/94/html>
- Scholz, T. M. (2019). *eSports is Business. Management in the World of Competitive Gaming*. Palgrave Macmillan.
- Statista. (2018). The Statistics Portal. <https://www.statista.com>
- Taylor, T. L. (2015). *Raising the stakes. E-sports and the professionalization of computer gaming*. MIT Press.

From Play to Placement: Leveraging esports for Inclusive Talent Acquisition

Manuela Sachse and Jessica Melzer, Westsächsische Hochschule Zwickau

Introduction (background/context): Global industries face a triple transformation—technological, cultural, and social—reshaping workforce demands, intensifying the need for inclusive recruitment. Gamification and esports show promise in education and engagement (Deterding et al., 2011; Hamari et al., 2014; Seaborn & Fels, 2015), yet their HR role—particularly for neurodivergent applicants—remains underexplored (Armstrong, Landers, & Collmus, 2016; Georgiou & Nikolaou, 2020; Landers & Sanchez, 2022). Conventional recruitment often reinforces barriers, disadvantaging neurodivergent individuals through reliance on verbal and social cues (Sasson et al., 2017; Voß & Würtemberger, 2023). As a growing global phenomenon with strong relevance in digital culture and teamwork, esports provides a natural testbed for HR innovations, making it a promising environment for inclusive recruitment.

Individuals with ASD, ADHD, or dyslexia often possess valuable skills yet face disadvantages in traditional recruitment (Austin & Pisano, 2017; Proft et al., 2016). Interviews emphasizing social interaction may unintentionally exclude them, reinforcing rejection and communication barriers (Gilliland, 1993; Hausknecht et al., 2004; Tomczak et al., 2021).

This conceptual study proposes a mixed-methods design to explore esports-based assessments that enhance fairness and accessibility. Prototype development followed Scrum with multimodal feedback (visual, auditory, textual) to ensure accessibility (Deci & Ryan, 2000; CAST, 2018).

Purpose/Research Question (objective): This project examines whether esports-based assessments can serve as inclusive, valid selection tools. Literature suggests they may reduce stress and barriers for neurodivergent applicants while maintaining diagnostic accuracy (Georgiou, 2020; Tomczak et al., 2021).

Planned research will address:

1. Do esports-based assessments enhance fairness for neurodivergent applicants?
2. How do they compare with traditional tools in assessing job-related skills?
3. Which design elements support accessibility, engagement, and scalability?

The study is informed by Self-Determination Theory (Deci & Ryan, 2000) and Universal Design for Learning (CAST, 2018).

Methods (approach; data collection/analysis): This exploratory mixed-methods study (Creswell & Plano Clark, 2018) combines interviews with applicants and focus groups with recruiters to identify hiring barriers. Data will be analyzed using thematic content analysis (Braun & Clarke, 2006; Mayring, 2015).

Prototype development follows Scrum, structuring iterative testing with continuous feedback loops to ensure accessibility (Deci & Ryan, 2000; CAST, 2018).

Findings will inform prototype design guided by SDT and UDL. Features include adaptive difficulty, non-verbal feedback, and collaborative tasks (Koivisto & Hamari, 2019). These results are conceptual and require empirical validation. Preliminary impacts include (1) fairness and reduced barriers, (2) diagnostic validity comparable to traditional methods, (3) enhanced engagement and candidate experience, (4) clear design guidelines, and (5) increased employer awareness (Austin & Pisano, 2017).

In a second phase, a randomized control study will compare these formats with conventional assessments, focusing on fairness, satisfaction, engagement, and validity (Hausknecht et al., 2004; Georgiou, 2020).

Preliminary Framework / Design Guidelines: Guided by Self-Determination Theory (Deci & Ryan, 2000), which emphasizes autonomy, competence, and relatedness as drivers of motivation, and Universal Design for Learning (CAST, 2018), which promotes flexible, accessible learning environments, the framework aims to foster fairness and engagement in assessment, we outline inclusive esports-based assessments emphasizing accessibility, autonomy, and competence-driven motivation. Key elements include adaptive difficulty, immediate non-verbal feedback, and optional narratives. Text-based and collaborative tasks reduce social pressure and highlight observable competencies (Koivisto & Hamari, 2019; Georgiou, 2020). These features aim to enhance fairness, engagement, and usability.

Discussion/Conclusion: This conceptual project proposes inclusive design principles to support equitable hiring through esports-based assessments. By fostering fairness, engagement, and accessibility, the framework can drive digital HR innovation and attract neurodiverse talent (Austin & Pisano, 2017; Tomczak et al., 2021). It bridges theory and practice in developing scalable recruitment strategies. Challenges remain: limited transfer of gaming skills to jobs, applicants' varying gaming experience, sensory overload, and balancing standardization with flexibility.

Significance (practical implications): The study develops practice-oriented design principles for inclusive recruitment, offering companies tools to attract and integrate neurodiverse talent. Esports-based assessments may support digital transformation, inclusivity, and competitiveness. The framework links research and practice, enabling innovative hiring strategies. For SMEs, scaling requires technical resources, HR training, and awareness campaigns. Scalability across industries is crucial to ensure transferability beyond SMEs. More broadly, the approach redefines "suitability" in the digital workplace—from interview performance to demonstrable situational competencies (Tomczak et al., 2021; Voß & Würtemberger, 2023).

Keywords: esports Assessments, Inclusive Recruitment, Neurodiversity, Fairness in Selection, Employer Awareness

References

- Austin, R. D., & Pisano, G. P. (2017). Neurodiversity as a competitive advantage. *Harvard Business Review*, 95(3), 96-103.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- CAST. (2018). Universal design for learning guidelines version 2.2. <http://udlguidelines.cast.org>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification." *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 9-15. <https://doi.org/10.1145/2181037.2181040>
- Georgiou, K., & Nikolaou, I. (2020). Are applicants in favor of traditional or gamified assessment methods? Exploring applicant reactions towards a gamified selection method. *Computers in Human Behavior*, 109, Article 106356. <https://doi.org/10.1016/j.chb.2020.106356>
- Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, 18(4), 694-734. <https://doi.org/10.5465/amr.1993.9402210155>
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? - A literature review of empirical studies on gamification. *Proceedings of the 47th Hawaii International Conference on System Sciences*, 3025-3034. <https://doi.org/10.1109/HICSS.2014.377>
- Hausknecht, J. P., Day, D. V., & Thomas, S. C. (2004). Applicant reactions to selection procedures: An updated model and meta-analysis. *Personnel Psychology*, 57(3), 639-683. <https://doi.org/10.1111/j.1744-6570.2004.00003.x>
- Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, 45, 191-210.
- Mayring, P. (2015). *Qualitative Content Analysis: Basics and Techniques* (12th ed.). Beltz.

- Proft, J., Gawronski, A., Krämer, K., Schoofs, T., Kockler, H., & Vogeley, K. (2016). Eine qualitative Analyse berufsbezogener Erfahrungen und Wünsche von Menschen mit Autismus-Spektrum-Störungen. *Zeitschrift für Psychiatrie, Psychologie und Psychotherapie*, 64(4), 253–261. <https://doi.org/10.1024/1661-4747/a000289>
- Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. *International Journal of Human-Computer Studies*, 74, 14-31. <https://doi.org/10.1016/j.ijhcs.2014.09.006>
- Tomczak, M. T., Szulc, J. M., & Szczerska, M. (2021). Inclusive communication model supporting the employment cycle of individuals with autism spectrum disorders. *International Journal of Environmental Research and Public Health*, 18(9), 4696. <https://doi.org/10.3390/ijerph18094696>
- Voß, E., & Würtemberger, S. (2023). Vielfalt im Employee Lifecycle: Diversity Management in HR-Prozessen. In *Vielfalt im Employee Lifecycle* (pp. 65–122). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-39841-5_3

Women of Color's Experiences in Video Game Culture

Amandah Altamirano, California State University San Marcos

Introduction: This qualitative study used critical race theory and symbolic interactionism to investigate women of color's experiences in video game culture impacted by a historical gender and racial divide.

Purpose/Research Question: The purpose of this study was to provide insight on the experiences of women of color gamers who are silenced and discriminated against in video game culture. The industry has marketed gaming as a man's world which upholds the social hierarchy where women are seen as inferior to men (Buyukozturk 2022). Symbolic violence against women happens because they do not fit the characteristics of a traditional "gamer" (Nakamura 2009, 2012; Salter and Blodgett 2012; Gray 2014; Cote 2018). Targeted violence occurs by linguistic profiling and racial profiling based on auditory cues that may include racial identification or identity linguistic subgroups (Baugh 2003).

Therefore, I examined two areas: online multiplayer games and video game live streaming. My research question was: "What are the experiences of women of color gamers in video game culture?"

Methods: 10 online semi-structured interviews were conducted with women of color over 18 who play video games and/or livestream while gaming. Open-ended questions were used to allow participants to provide authentic insights, build rapport, and encourage more honest and insightful answers. Interview questions asked about gaming experiences and how they affected their lives and relationships.

Results: Findings suggested that identity-based harassment impacted how women of color navigated through masculinized gaming spaces by using strategies to protect and resist. Women of color in the study noted being discriminated against, dehumanized, sexualized, bullied, and targeted. Despite all the negative experiences, women in this study held on to the memories of building community, maintaining relationships, creating memories, and finding pure joy while gaming. Lastly, participants described current problems in video game culture with recommendations for change.

Discussion/Conclusion: This research investigated how women of color experienced identity-based harassment in gaming, and how they navigated through it. And yes, there were many experiences of systematic oppression through men who are backed by an industry bent on objectifying women as hypothesized. Yet, the unexpected emergence of many positive experiences made me feel hopeful. These stories impacted and reminded me that we must not forget meaningful experiences that are buried by harmful experiences. This is critical to remember as we are in a climate where hate speech and identity-based harassment is promoted, enabled, and is rising due to a federal administration that upholds these

values. These findings support the critical need for continued intersectional analyses of women of color in gaming to understand their unique experiences and to make video game culture a more welcoming and accepting environment for everyone.

Significance: Marginalized communities in video game culture are forced to be silent and invisible due to efforts used to push them out because they are not white, male, heterosexual, or cisgender. The experiences of those who have been marginalized are stories needed to be heard to address the dehumanization and discrimination in our online culture. This area of study is new and continuously growing. There is a need for women of color in the field of gaming to bring forth silenced stories to help foster spaces intended for everyone, not just men. Through being directly involved in the industry and research, these stories and efforts are helping uplift people in the community to bring change together.

Keywords: women of color gamers, video game culture, identity-based harassment, critical race feminism, online video gaming

References

- Buyukozturk, B. (2022). Reproducing the gaming gender hierarchy. *Symbolic Interaction*, 45(1), 27-49.
<https://doi.org/10.1002/symb.553>
- Cote, A. C. (2018). Curate your culture: A call for social justice-oriented game development and community management. In K. L. Gray & D. J. Leonard (Eds.), *Gaming representation: Race, gender, and sexuality in video games* (pp. 193-212). University of Washington Press.
- Baugh, J. (2003). Linguistic profiling. In S. Makoni, G. Smitherman, A. F. Ball, & A. K. Spears (Eds.), *Black linguistics: Language, society, and politics in Africa and the Americas* (pp. 155-168). Routledge.

AI in Collegiate Esports: Enhancing Practice, Play, and Competition

Ray S. Pastore, University of North Carolina Wilmington

Over the past several years, artificial intelligence has increasingly reshaped the landscape of collegiate esports, influencing how teams train, compete, and strategize. Drawing on my experience as Director of the UNCW Esports Program, this presentation explores the current and evolving role of AI in three key areas: practice optimization, performance analysis, and competitive play.

In the practice arena, AI-powered analytics platforms, used by both collegiate and professional teams, enable detailed breakdowns of player behavior, individual mechanics, and team dynamics. These tools provide actionable insights, helping coaches tailor training regimens to a player's unique strengths and weaknesses. AI systems can even generate scenario simulations that replicate high-pressure moments, allowing athletes to rehearse responses and improve decision-making ability under stress.

During competition, AI's influence continues to expand. Real-time in-game analytics tools can monitor team performance, adapt strategies on the fly, and offer dynamic feedback. Emerging research highlights machine learning models capable of predicting player performance using physiological and in-game sensor data, opening doors to more proactive coaching interventions and injury prevention.

Beyond practice and gameplay, AI also advances audience engagement and integrity. Automated moderation systems help maintain healthy team environments, reducing toxicity during scrimmages and broadcasts. My program has observed increased student focus and morale when conflict is managed seamlessly, allowing players to remain concentrated on competition rather than distraction.

Despite the potential, adoption in collegiate settings presents unique challenges, such as limited budgets, variable technical infrastructure, and privacy considerations. My presentation will examine how UNCW navigates these challenges, leveraging partnerships, piloting entry-level tools, and aligning AI integration with educational objectives.

In summary, AI is poised to enhance collegiate esports by enabling smarter training, richer competition, and healthier team cultures. As a veteran administrator in this space, I will share practical lessons, success stories, and forward-looking strategies to help institutions responsibly integrate AI into their esports programs.

Keywords: collegiate esports, artificial intelligence, performance analytics, machine learning, training optimization

References

- Noroozi, A., Hasan, M. S., Ravan, M., Norouzi, E., & Law, Y.-Y. (2024). An efficient machine learning approach for extracting esports players' distinguishing features and classifying their skill levels using symbolic transfer entropy and consensus nested cross-validation. *International Journal of Data Science and Analytics*. <https://doi.org/10.1007/s41060-024-00529-6>
- Peng, Y. (2024). The application of machine learning in predicting the results of popular esports games: Win rate prediction in MOBA and FPS games. *Highlights in Science, Engineering and Technology*, 85, 1150–1156.
- Smerdov, A., Somov, A., Burnaev, E., & Stepanov, A. (2023). AI-enabled prediction of video game player performance using the data from heterogeneous sensors. *Multimedia Tools and Applications*, 82(7), 11021–11046. <https://doi.org/10.1007/s11042-022-13464-0>

The Impact of Esports Programs on Player's Health and Well-being in Quebec, Canada

Emy Chapleau, Université du Québec à Trois-Rivières

Introduction: Extracurricular esports programs raise significant concerns, particularly regarding cyberaddiction, social isolation, sedentary lifestyles, and performance anxiety. These issues are often exacerbated by negative stereotypes associated with unregulated recreational video gaming (Kowert et al., 2012, Murphy, 1998, Nwakpu, 2020). However, international research suggests that organized competitive team-based esports programs typically benefit from structured supervision, including support from mental and physical health professionals (Dowdell, 2024 ; Giakoni-Ramirez & al. 2022 ; Smith, 2021) This structured environment helps mitigate risks while fostering player's psychological and social development (Ivanisevic & Sunje, 2022 ; Tang & al. 2023). In Quebec, esports is not recognized as a sport. This lack of recognition limits development and access to resources, hinders funding opportunities, and prevents the establishment of official programs and structured competitions (Académie Esports du Canada, 2024).

Purpose: This study aims to evaluate the support systems available to Quebec students enrolled in school-based esports programs and to assess their impact on player's mental and physical health. The research question investigates whether Quebec esports teams have access to a good athletic support system compared to traditional sports teams.

Methods: A survey was distributed to the coordinators of 20 university, college, and high school esports teams. The questionnaire focused on the availability of support services, including mental health care and strategies for managing performance anxiety. To enable international comparisons, a scoping review was conducted on the support systems available to school-based and professional esports players worldwide.

Results: The results indicate that only a minority of teams provide diversified support services, particularly in the areas of mental health and physical conditioning. In conclusion, this research highlights the lack of adequate psychological support in many esports programs, despite the well-documented benefits of such interventions. To enhance the significance of our findings, this study proposes practical solutions to improve support within school-based esports programs. We also conducted a review of measurement tools commonly used in esports research, offering a resource for new researchers seeking to assess mental health, performance anxiety, and team dynamics in competitive gaming.

Keywords: School esports program, physical health, psychological well-being, structured support, Canada

References

- Academie Esports du Canada. (2024). Concentration Esport-Attitude. <https://www.academieesports.com/concentration-esport-etude/>
- Dowdell, B., Lepp, A., Yim, B. H., & Barkley, J. E. (2024). Esports Athletes on a Team or Club Are More Physically Active and Less Sedentary Than Equally Experienced, Casual Video Gamers. *Journal of Electronic Gaming and Esports*, 2(1). <https://doi.org/10.1123/jege.2023-0012>
- Giakoni-Ramírez, F., Merellano-Navarro, E., & Duclos-Bastías, D. (2022). Professional esports players: Motivation and physical activity levels. *International Journal of Environmental Research and Public Health*, 19(4), 2256. <https://doi.org/10.3390/ijerph19042256>
- Ivanišević, D., & Šunje, H. (2022). Self-concept differences in athletes and esports players. *Sports Logos/Sportski Logos*, 20(34). <https://www.researchgate.net/publication/366892364>
- Kowert, R., Griffiths, M. D., & Oldmeadow, J. A. (2012). Geek or chic? Emerging stereotypes of online gamers. *Bulletin of Science Technology & Society*, 32(6), 471-479. <https://doi.org/10.1177/0270467612469078>
- Murphy, S. T. (1998). The impact of factual versus fictional media portrayals on cultural stereotypes. *The Annals of the American academy of political and social science*, 560(1), 165-178.
- Parrott, S., Rogers, R., Towery, N. A., & Hakim, S. D. (2020). Gaming Disorder: News media framing of video game addiction as a mental illness. *Journal of Broadcasting & Electronic Media*, 64(5), 815-835. <https://doi.org/10.1080/08838151.2020.1844887>
- Smith, M. J., Birch, P. D., & Bright, D. (2021). Identifying stressors and coping strategies of elite esports competitors. In *Research Anthology on Business Strategies, Health Factors, and Ethical Implications in Sports and eSports*. 895-914. <https://doi.org/10.4018/978-1-7998-7707-3.ch048>
- Tang, D., Sum, K. W. R., Ma, R., & Ho, W. K. (2023). Beyond the screen: do esports participants really have more physical health problems?. *Sustainability*, 15(23), 16391. <https://doi.org/10.3390/su152316391>

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- Emma Pruet, Slippery Rock University of Pennsylvania, USA
- Brodey Hauer, Slippery Rock University of Pennsylvania, USA
- Amanda C. Cote, Michigan State University, USA
- Jonathon “Jono” Eaton, Michigan State University, USA

Europe, the Middle East and Africa (EMEA)

- Cameron Vanloo, Staffordshire University, UK

Asia-Pacific

- Oskar Page, UNSW Sydney, Australia
- Guy Lobwein, UNSW Sydney, Australia
- Xander Gonzaga, UNSW Sydney, Australia
- Katherine Liang, UNSW Sydney, Australia
- Jingcheng Zhu, UNSW Sydney, Australia
- Thomas Yuxi Zeng, UNSW Sydney, Australia
- Chan Yiu Ying, UNSW Sydney, Australia
- Sarah Catorall, UNSW Sydney, Australia

Conference

- Tobias M. Scholz, ERN Chair, University of Agder, Norway
- David Eitel, Acer, Germany
- Oliver Leis, ERN Ombudsperson, Leipzig University, Germany
- Katrina Keller, Corsair, USA
- Kirsten Poveda, Corsair, USA

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