

Research Report on the World Esports AI Ethics Guidelines: *Establishing Standardized Ethical AI Guidelines in Esports through Critical Stakeholder Input*

by

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Summary

Overview: This research report outlines how the *World Esports Artificial Intelligence (AI) Ethics Guidelines* (separate document) were established. The 27 total guidelines distinguish between esports training and competition contexts. Ten (10) general guidelines apply to both settings, while six (6) training-only and eleven (11) competition-only additional guidelines address context-specific considerations. To support best practices, the guidelines include illustrative examples of acceptable and unacceptable AI uses, clarifying ethical risks and key requirements. An application plan is also provided, which includes an implementation checklist for esports teams and organizers, an example enforcement matrix, and a call for a “World Esports AI Ethics Officer Consortium”.

Rationale: The rapid adoption of AI across esports training and competition offers significant opportunities for performance improvement, player development, accessibility, and operational efficiency. At the same time, AI introduces serious risks related to fairness, integrity, privacy, safety, and conditions that can compromise a level playing field. The World Esports AI Ethics Guidelines establish a global framework to help promote that AI enhances, rather than replaces, the core human elements of esports, including player skill, teamwork, strategy, and human decision-making. The guidelines define ethical boundaries for AI use, emphasizing informed consent, transparency, privacy protection, equity of access, and respect for legal frameworks, and competition rules. In addition, game publisher and AI provider intellectual property (IP) sharing limitations, end-user license agreements (EULAs), and platform governance may limit the ability to adhere to, or supersede portions of, these guidelines, making it essential for each stakeholder to evaluate applicability through the lens of their own responsibilities and resources within the esports ecosystem.

Advisory Nature of the Guidelines: The guidelines are intended as advisory recommendations to support ethical and responsible AI use in esports, rather than prescriptive rules or enforceable policies. They provide flexible guidance that stakeholders can adapt to their specific contexts, helping to promote good practices while respecting the variability of games, cultures, and legal frameworks worldwide.

Methodology: The *World Esports AI Ethics Guidelines* were established through a two-phase mixed-method, cross-sectional research design that combined broad stakeholder input with expert validation. In Phase 1, an online survey was completed by a purposively and snowball-sampled, globally diverse group of 161 esports, gaming, and AI professionals representing 28 different countries worldwide to gather quantitative and qualitative insights on ethical and unethical AI uses in esports, resulting in a preliminary draft of the guidelines. In Phase 2, a modified Delphi approach was employed, engaging a panel of 18 subject matter experts in esports representing 9 different countries worldwide to review, refine, and validate the draft guidelines through structured, written feedback. Quantitative survey data were analyzed using descriptive statistics, while qualitative data from open-ended survey responses and expert feedback underwent iterative thematic analysis involving open, axial, and selective coding, with reliability supported through member checks and independent coding review. The final World Esports AI Ethics Guidelines were produced through structured consensus-building among esports researchers and expert industry panelists, integrating empirical findings, stakeholder perspectives, and alignment with relevant literature and international legal and ethical frameworks.

Conclusion: The World Esports AI Ethics Guidelines outline foundational recommendations applicable across all esports contexts, as well as set additional standards for esports training and competition conditions, while noting that AI intended for development, feedback, or analysis can become harmful or unfair if used during live gameplay. They address issues such as sourcing legitimate data, preventing competitive advantage through AI tools, safeguarding qualified human roles, ensuring rule enforcement, and supporting player health and wellbeing. For competitions, the guidelines additionally address cheating prevention, fair access to approved analytics, broadcasting enhancements, accessibility tools, in-game AI design, and event management systems.

Ultimately, the guidelines aim to educate and raise awareness of AI concerns in esports, protect competitive and governance integrity, promote equitable access, ensure player welfare, and maintain trust among players, teams, organizers, and spectators. As AI technologies and the esports ecosystem evolve rapidly, these standards are intended to be adaptable and should be reviewed regularly to remain aligned with emerging capabilities, risks, and community norms. If AI undermines fairness or the centrality of human play, trust in esports competitions can erode, risking loss of viewers, sponsors, and events, making it essential for all stakeholders to establish and follow recommendations. The overarching principle is that AI should support excellence in esports without undermining fairness, human authority and agency, or the spirit of competition.

Project Origin, Coordination, and Funding: This project was conducted by Dr. Seth E. Jenny and Dr. Raymond Pastore, formed part of the World Esports Standardization Development 2025, and was coordinated by the International Esports Federation (IESF), funded by the Busan Metropolitan City, South Korea, and supported by the Voice of Intercollegiate Esports (VOICE).

Research Report Introduction

The rapid advancement and integration of artificial intelligence (AI) technologies into esports and gaming, from performance analytics to generative content, has transformed the industry. AI is now being used for in-game strategy optimization, automated coaching tools, real-time statistical analysis, content moderation, opponent scouting, and even dynamic commentary generation, significantly reshaping how esports teams and players of all levels prepare, compete, and engage with audiences. While AI presents opportunities for innovation, content moderation, performance analytics, and personalization, it also introduces significant ethical concerns, including data privacy violations, bias in AI decision-making, manipulation of competitive integrity (i.e., cheating), and over-reliance on unregulated automated systems with little human supervision. An overreliance on AI-based automation risks de-skilling esports players and coaches, diminishing critical thinking and problem-solving skills and abilities, and stifling effective team collaboration while potentially damaging competition integrity (McAllister, 2025).

Traditional AI that analyzes and interprets existing data to make predictions or decisions (e.g., performance prediction algorithms) and generative AI that creates new content or data based on learned patterns (e.g., synthetic coaching content, voice assistants, chat moderation) are used by professional esports teams, collegiate esports organizations, and streaming platforms, often without clear ethical oversight or standardized governance. Despite the growing use of AI in esports, there are no universal globally accepted guidelines tailored to the unique values and competitive nature of this ecosystem. This lack of a shared ethical framework undermines stakeholder trust, increases the risk of exploitation with unfair inequitable gameplay, and threatens the long-term sustainability of the esports industry. Therefore, there is an urgent need for a value-driven, stakeholder-informed, and practically applicable set of AI in esports ethics guidelines that reflect the spirit, principles, and voice of the esports community. This research addresses this gap.

Purpose

The purpose of this study was to establish World Esports Artificial Intelligence (AI) Guidelines through critical stakeholder input.

Primary Research Question

What are ethical and unethical uses of artificial intelligence (AI) in esports training and competition?

Scope

This study aims to establish foundational AI ethics in esports guidelines that stakeholders of all levels and settings can autonomously adopt, grounded in the core values of the esports community while being cognizant of all major AI-related risks. These guidelines were purposefully created to be applicable to all levels of esports (i.e., amateur Tier 3, semi-professional Tier 2, and professional Tier 1), across diverse settings (primary and secondary school, collegiate and university, club-based, professional, tournament, circuit, and league settings), and within all geographic locations worldwide. The guidelines were created with clear accessible language to ease practical adoption globally, with diverse stakeholder collaboration and consensus across the esports ecosystem being a prime objective.

Ethics Grounded in Culture

The researchers fully acknowledge that what is perceived as ethical to one group or individual may not be seen as ethical by another, particularly worldwide from individuals of diverse backgrounds and cultures. Thus, an attempt has been made to understand the commonly accepted ethical and unethical uses of AI in esports training and competition from diverse international stakeholders from varying positions and levels of esports across the esports ecosystem. Moreover, as what is accepted as ethical may change over time, it is necessary to see this as a living document where review and revisions are needed on a consistent basis.

Conflict of Interest Statement and Funding Acknowledgement

The authors declare that they have no conflicts of interest related to this work. This project is part of the World Esports Standardization Development 2025 and was coordinated by the International Esports Federation (IESF; <https://iesf.org>), funded by Busan Metropolitan City, and supported by the Voice of Intercollegiate Esports (VOICE; <https://www.voicecollegiate.org>).

Definition of Key Terms

Of note, within the *World Esports Artificial Intelligence (AI) Ethics Guidelines* document, a glossary is included that provides operational definitions of over 50 AI- and esports-related terms. Readers are encouraged to review that document to gain a deeper understanding of terminology and ensure consistent interpretation of key concepts throughout this report.

Methodology

Study Design

This study employed a two-phase mixed-method cross-sectional design, incorporating both quantitative and qualitative data collection through an online survey and follow-up peer review interviews. The aim was to gather insights on the study's purpose and primary research question from individuals with professional experience in esports, gaming, and/or AI. First, an initial online survey (described below) was distributed to esports and gaming professionals to develop a preliminary draft of the proposed guidelines (*Phase 1, Online Survey*). Next, a modified Delphi method (Nasa et al., 2021) (described below) of expert panel peer review interviews were conducted to validate and refine the draft guidelines and address emerging questions from the survey results (*Phase 2, Peer Review Interviews*). The study received approval from the University of North Carolina Wilmington (UNCW) Institutional Review Board (IRB), and consent was obtained from all participants prior to data collection.

Phase 1: Online Survey

The online survey was developed and administered using the online survey platform Qualtrics (<https://www.qualtrics.com>) and consisted of 27 questions, with an estimated completion time of approximately 15 minutes. Open-ended and closed-response questions centered on participants' experience with AI and esports, defining and offering examples of AI in esports, perceived ethical and unethical uses of AI in esports training and competition, and demographic questions. The survey was reviewed by multiple experts in AI and esports research, as well as IESF and VOICE, to ensure clarity, readability, and content validity.

Phase 1: Online Survey Sampling

Purposeful sampling occurred as participants were recruited primarily through the researchers' and supporting organizations' professional networks who had expertise in esports, video gaming, and/or AI. Potential participants were contacted to take the online survey via email, LinkedIn, X, or Discord, depending on the communication channel typically used in their professional relationship with each researcher. To broaden participation, a public announcement was also shared on LinkedIn and X, inviting qualified individuals to participate. The researchers made great efforts to invite participants of diverse genders and geographic locations across all levels of esports (amateur/club to professional, including scholastic and collegiate/university), as well as individuals from varying sectors of the esports and AI industries – academics, researchers, data analysts, game developers/publishers, esports players, coaches, gaming software/hardware companies, referees/admin, tournament organizers, esports organization managers/owners, esports lawyers, performance support staff, esports journalists, esports psychologists, esports venue operators, etc.

A snowball sampling approach was also employed, asking survey participants at the end of the survey to “Please provide the name(s) and email address(es) of anyone you would recommend to also take this survey.” These people were vetted and then sent the survey too.

Inclusion Criteria: Individuals 18 years or older and with current or prior industry or research experience in esports, gaming, or AI.

Exclusion Criteria: Individuals less than 18 years old or without relevant industry or research experience.

Survey Timeframe: The online survey was first distributed on 30 September 2025, with a first reminder sent 6 October 2025, final reminder sent 13 October 2025, and closed on 15 October 2025.

Sample Size and Response Rate: The survey was sent to a total of 421 targeted individuals, with 161 participants responding to at least the first question, representing a response rate of 38.2%. The number of responses varied by question as partially completed surveys were retained for analysis due to utilizing rich descriptive data provided. 103 participants completed the entire survey, resulting in a 64.0% survey completion rate.

Phase 1: Online Survey Participant Demographics

As seen in Table 1, phase 1 study participants consisted primarily of professionals within the AI and esports/gaming sectors. The majority were male (78.8%) with a mean age of 37.9 years (SD=9.44), with a high level of educational attainment as 77.6% held a graduate or doctoral degree. The sample was globally distributed as participants represented 28 different countries with the highest response rates from the United States of America (USA; 59.6%), the United Kingdom (22.9%), Germany (9.8%), and South Korea (8.1%) – see Figure 1. Even within the USA, participants hailed from 23 different states (Figure 2). Regarding their professional roles, participants were highly experienced overall, with an average of 8.0 years (SD=5.25) of total esports experience, with 40.0% reporting experience at the professional esports level. Their current roles predominantly centered on academia (46.2%) and related scholarly roles (e.g., professor/academic, esports director), with 72.1% employed full-time. In terms of AI familiarity, most reported being "moderately familiar" or better (66.7%) with AI technology and its use in esports, though only 40.4% confirmed having personally used AI tools in an esports role.

Table 1 – Online Survey Participant Demographics (Global, Phase 1)

Category/Question	Count (n)
Artificial Intelligence (AI) in Esports Experience	
How familiar are you with AI technology and its use in esports? (n=161; M=3.00; SD=1.183)	
Not familiar at all	19 (11.8%)
Slightly familiar	34 (21.1%)
Moderately familiar	57 (35.4%)
Very familiar	30 (18.6%)
Extremely familiar	21 (13.0%)
Have you personally used AI tools in any esports role? (n=161; M=1.64; SD=.565)	
Yes	65 (40.4%)
Maybe	7 (4.3%)
No	89 (55.3%)
Esports Experience	
Highest level of esports you have played, coached, managed, or worked within previously? (n=105)	
Professional Esports	42 (40.0%)
Semi-Professional Esports	14 (13.3%)
Amateur/Club	29 (27.6%)

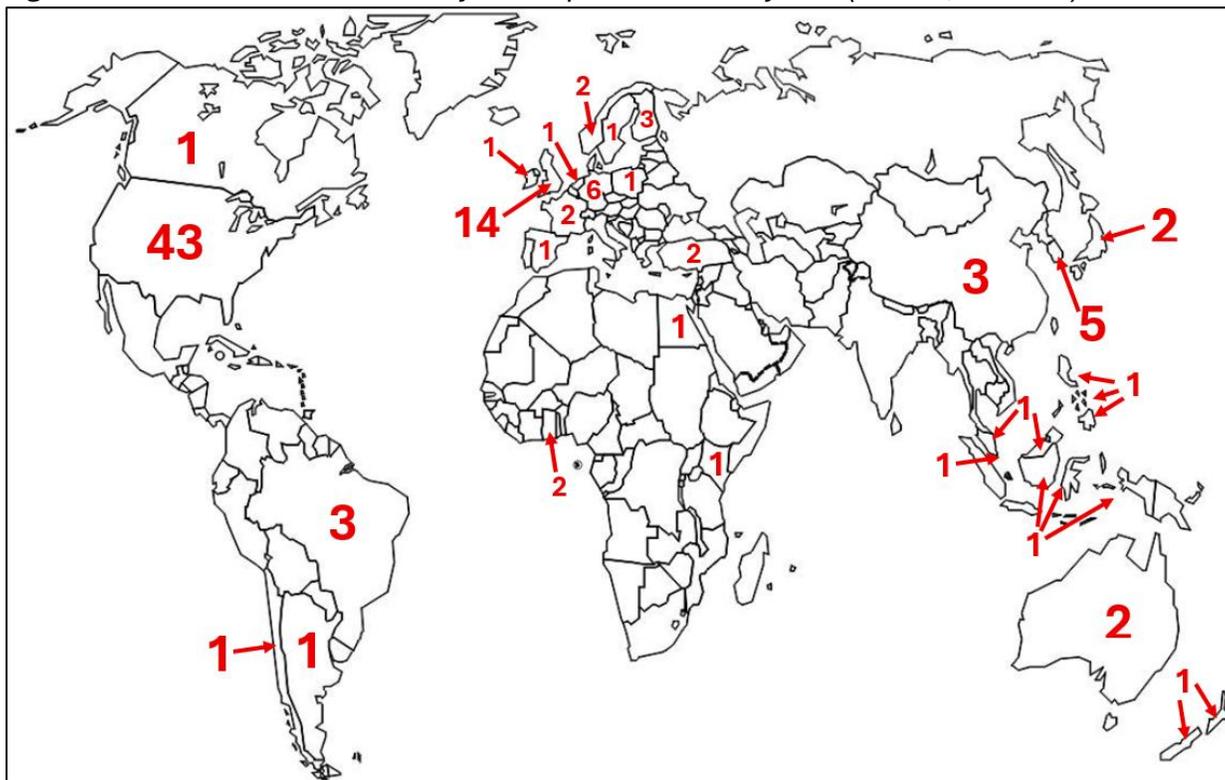
None	20 (19.0%)
Including this year, total number of years experience in esports? (n=105; M=7.96 years; SD=5.246; Mdn=7.0; Mo=6)	
0 years	7 (6.7%)
1-5 years	26 (24.8%)
6-10 years	48 (45.7%)
11-15 years	15 (14.4%)
16-20 years	7 (6.7%)
21-25 years	2 (1.9%)
AI/Esports/Gaming Job Questions	
What is your current role/company in AI, esports, or gaming? (n=104)	
Academic	48 (46.2%)
Scholastic Esports Staff	11 (10.6%)
Esports Governance	10 (9.6%)
Esports Professional or Semi-professional Organization	8 (7.7%)
Esports Professional or Semi-professional Player	4 (3.8%)
Esports Tournament/League Organizer	3 (2.9%)
Artificial Intelligence	2 (1.9%)
Other	18 (17.3%)
Current primary job title in relation to AI, esports or gaming? (n=100)	
Professor/Academic	24 (24.0%)
Esports Director, Coordinator, or Head Coach	19 (19.0%)
Executive Leadership in Esports Organization	15 (15.0%)
Esports/Gaming/AI Researcher	14 (14.0%)
PhD Student	5 (5.0%)
Esports Performance Coach/Psychologist	5 (5.0%)
Esports Player	4 (4.0%)
Esports Journalist	4 (4.0%)
Esports Club Faculty/Staff Advisor	3 (3.0%)
Esports Law	2 (2.0%)
Esports Expert/Consultant	2 (2.0%)
Esports Event Production	1 (1.0%)
Esports Referee	1 (1.0%)
Secondary Education Esports	1 (1.0%)
Current job (listed above) employment status (in relation to AI, esports, or gaming)? (n=104)	
Full Time	75 (72.1%)
Part Time	16 (15.4%)
Volunteer	13 (12.5%)
Including this year, number of years working in current job (listed above) relating to AI, esports or gaming? (n=104; M=5.59 years; SD=3.908; Mdn=4.5; Mo=3)	
0 years	1 (1%)
1-5 years	58 (55.8%)
6-10 years	36 (34.7%)
11-15 years	6 (5.8%)
16-20 years	3 (3%)
Demographic Questions	
What is your age? (n=103; M=37.94 years; SD=9.441; Mdn=36; Mo=40)	
18-20 years	2 (2%)
21-29 years	16 (15.6%)
30-39 years	43 (41.8%)
40-49 years	29 (28.1%)

50-59 years	10 (9.7%)
60-61 years	3 (2.9%)
Gender Identify? (n=104)	
Man	82 (78.8%)
Woman	19 (18.3%)
Non-Binary	3 (2.9%)
Do you live in the United States of America (USA)? (n=104; M=1.6; SD=.493)	
Yes	42 (40.4%)
No	62 (59.6%)
What country do you currently live in? (n=104 from 28 different countries) – See Figure 1	
Argentina	1 (1.6%)
Australia	2 (3.2%)
Brazil	3 (4.9%)
Canada	1 (1.6%)
Chile	1 (1.6%)
China	3 (4.9%)
Egypt	1 (1.6%)
Finland	3 (4.9%)
France	2 (3.2%)
Germany	6 (9.8%)
Ghana	2 (3.2%)
Indonesia	1 (1.6%)
Ireland	1 (1.6%)
Japan	2 (3.2%)
Kenya	1 (1.6%)
Malaysia	1 (1.6%)
Netherlands	1 (1.6%)
New Zealand	1 (1.6%)
Norway	2 (3.2%)
Philippines	1 (1.6%)
Poland	1 (1.6%)
Singapore	1 (1.6%)
South Korea	5 (8.1%)
Spain	1 (1.6%)
Sweden	1 (1.6%)
Turkey	2 (3.2%)
United Kingdom	14 (22.9%)
United States of America (n=43; % of USA) – See Figure 2	
Arizona (n=2; 4.7%)	
California (n=3; 7.0%)	
Colorado (n=1; 2.3%)	
Florida (n=1; 2.3%)	
Hawaii (n=1; 2.3%)	
Idaho (n=1; 2.3%)	
Illinois (n=3; 7.0%)	
Kansas (n=1; 2.3%)	
Maryland (n=1; 2.3%)	
Massachusetts (n=3; 7.0%)	
Michigan (n=3; 7.0%)	
Minnesota (n=1; 2.3%)	
Missouri (n=1; 2.3%)	

New Mexico	(n=1; 2.3%)	
New York	(n=4; 9.3%)	
North Carolina	(n=6; 14.0%)	
Ohio	(n=1; 2.3%)	
Oregon	(n=2; 4.7%)	
Pennsylvania	(n=3; 7.0%)	
Tennessee	(n=1; 2.3%)	
Utah	(n=1; 2.3%)	
Virginia	(n=1; 2.3%)	
Wisconsin	(n=1; 2.3%)	
What is the highest level of education you have completed? (n=103)		
No formal schooling		1 (1.0%)
Secondary/high school		3 (2.9%)
Post-secondary		4 (3.9%)
Undergraduate		13 (12.6%)
Graduate		37 (35.9%)
Doctoral		43 (41.7%)
Prefer not to say		1 (1.0%)
Other		1 (1.0%)
Is English your first/primary language? (n=103; M=1.39; SD=.490)		
Yes		63 (61.2%)
No		40 (38.8%)

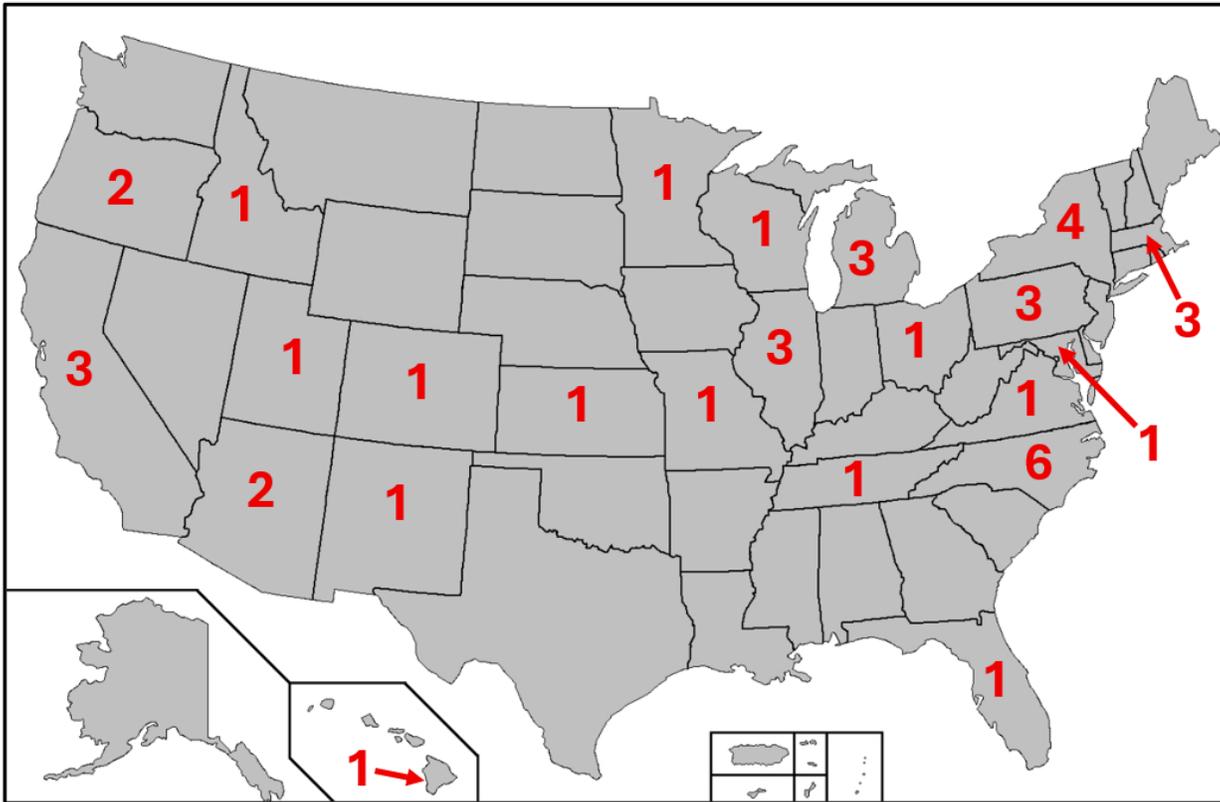
Note. n = number. M = mean (i.e., average). Mdn = median. Mo = mode. SD = standard deviation.

Figure 1 – Where the Online Survey Participants Currently Live (Global, Phase 1)



Note. n = 104, from 28 different countries.

Figure 2 – Where the Online Survey Participants Currently Live (USA, Phase 1)



Note. n = 43, from 23 different U.S. states.

Phase 2: Peer Review Interview Methodology

A modified Delphi method (Nasa et al., 2021) was utilized where an expert panel review consisting of subject matter experts (SMEs) on esports and/or AI offered feedback on the guidelines. This methodology added further esports community insights and validation of the final guidelines.

Phase 2: Sampling and Response Rate

To conclude the phase 1 survey, participants were asked: “*Would you like to see an early draft of the “World Esports AI Ethics Guidelines” and be interviewed to offer further feedback? If so, please list your name and email address.*” 61 targeted potential SME interview participants were then contacted via email. At that time participants completed a survey via the Qualtrics platform that consisted of digitally signing a confidentiality agreement plus 12 questions centering on their AI and esports experience and general demographics. 31 participants completed the survey and were sent a draft of the guidelines and report, but only 18 replied with feedback, representing a 29.5% completed response rate for phase 2.

Phase 2: Procedure and Timeframe

The SME peer review interviews were conducted with 18 participants to further validate and refine the draft guidelines. Participants were sent a Microsoft Word copy of the initial World Esports AI Guidelines draft and research study report and were invited to provide “tracked changes” and inserted comments feedback, concerns, and recommendations within the document. Thus, both the World Esports AI

Guidelines and this study report were peer reviewed. All SME peer review “interviews” were conducted via email to accommodate participants’ schedules and allow thoughtful, written responses. The expert panel review commenced on 3 December 2025 and was completed on 11 December 2025.

Phase 2: Participant Demographics

As shown in Table 2, participants in the Phase 2 interviews were highly experienced individuals within the esports, gaming, and AI sectors. The group (n = 18) had a mean age of 37.6 years (SD = 8.45), with half residing in the United States and the remainder distributed across nine additional countries (Australia, Germany, Hungary, Japan, New Zealand, Norway, South Korea, and the United Kingdom). Most participants identified as a man (83.3%), while 16.7% identified as a woman. The sample was also highly educated, with 83.3% holding a graduate or doctoral degree. Participants reported substantial involvement in esports, with an average of 9.7 years of experience (SD = 6.31). Across the sample, 27.8% had experience at the professional esports level and 22.2% at the semi-professional level. Regarding their current occupations, most participants were based in academia (72.2%), including faculty, researchers, and competitive esports program directors, and the majority (77.8%) were employed full-time in that role. In terms of AI familiarity, respondents generally expressed moderate to high levels of knowledge, with 76.4% reporting that they were “moderately,” “very,” or “extremely” familiar with AI in esports. Participants also reported an average of 5.8 years (SD = 6.26) working specifically in their current AI-, esports-, or gaming-related role. Overall, the Phase 2 sample consisted of seasoned professionals with extensive esports experience and strong academic or industry expertise in AI and gaming technologies.

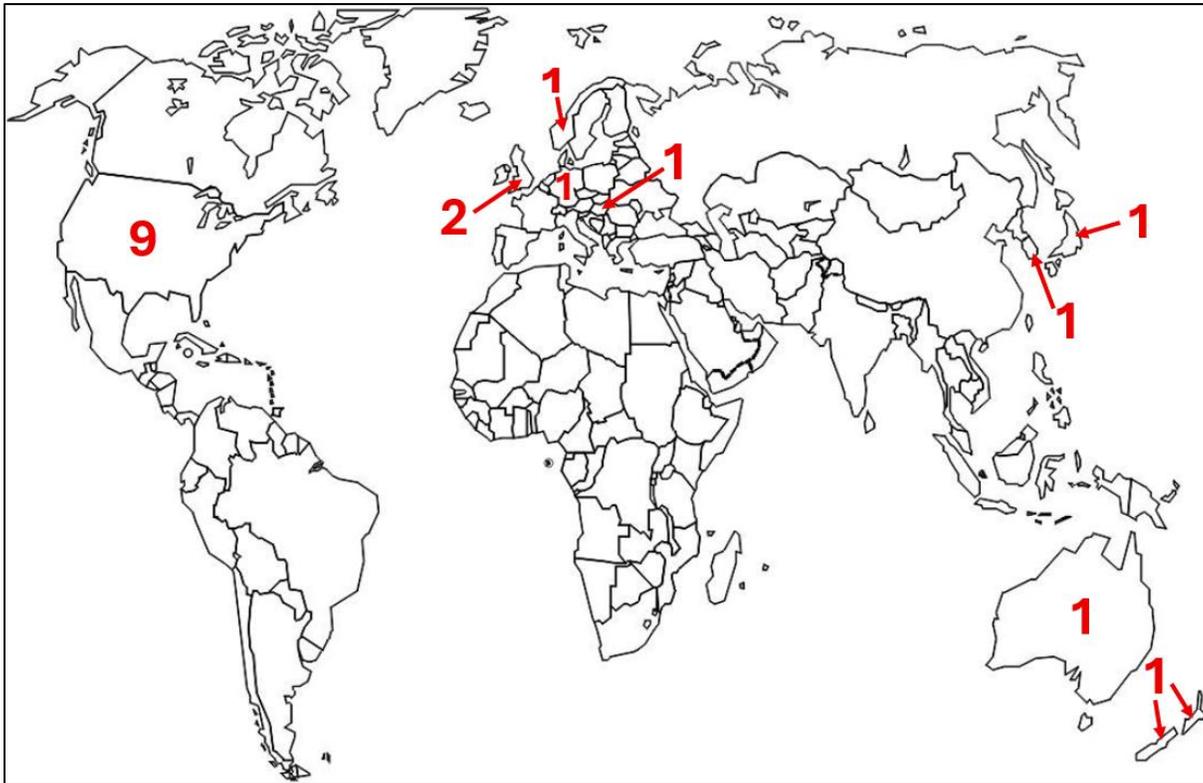
Table 2 – Peer Review Interview Participant Demographics (Global, Phase 2)

Category/Question	Count (n)
Artificial Intelligence (AI) in Esports Experience	
How familiar are you with AI technology and its use in esports? (n=18)	
Not familiar at all	0 (0.0%)
Slightly familiar	4 (23.5%)
Moderately familiar	4 (23.5%)
Very familiar	5 (29.4%)
Extremely familiar	4 (23.5%)
Have you personally used AI tools in any esports role? (n=18)	
Yes	8 (44.4%)
Maybe	2 (11.1%)
No	8 (44.4%)
Esports Experience	
Highest level of esports you have played, coached, managed, or worked within previously? (n=18)	
Professional Esports	5 (27.8%)
Semi-Professional Esports	4 (22.2%)
Amateur/Club	5 (27.8%)
None	4 (22.2%)
Including this year, total number of years experience in esports? (n=18; M=9.7 years; SD=6.311; Mdn=8)	
1-5 years	4 (22.2%)
6-10 years	8 (44.4%)
11-15 years	3 (16.7%)
16-20 years	1 (5.6%)
21-25 years	2 (11.1%)

AI/Esports/Gaming Job Questions	
Current primary job title in relation to AI, esports or gaming? (n=18; total exceeds 100% due to individuals holding multiple classifications)	
Higher Education Professor and Esports Researcher	6 (33.3%)
Collegiate Esports Director, Head Coach, or Club President	5 (27.8%)
Esports, Gaming, and/or AI Industry Researcher	5 (27.8%)
Esports Law	3 (16.7%)
Esports Industry Expert/Consultant	2 (11.1%)
Collegiate Esports Player	1 (5.6%)
Professional Esports Organization Analytics Director	1 (5.6%)
Professional Esports Production	1 (5.6%)
Current job (listed above) employment status (in relation to AI, esports, or gaming)? (n=18)	
Full Time	14 (77.8%)
Part Time	2 (11.1%)
Volunteer	2 (11.1%)
Including this year, number of years working in current job (listed above) relating to AI, esports or gaming? (n=18; M=5.8 years; SD=6.264; Mdn=3)	
1-5 years	12 (66.7%)
6-10 years	3 (16.7%)
11-15 years	2 (11.1%)
16-20 years	1 (5.6%)
Demographic Questions	
What is your age? (n=18; M=37.6 years; SD=8.445; Mdn=37.5)	
21-29 years	1 (5.6%)
30-39 years	9 (50.0%)
40-49 years	5 (27.8%)
50-59 years	3 (16.7%)
Gender Identify? (n=18)	
Man	15 (83.3%)
Woman	3 (16.7%)
What country do you currently live in? (n=18 from 9 different countries) – See Figure 3	
Australia	1 (5.6%)
Germany	1 (5.6%)
Hungary	1 (5.6%)
Japan	1 (5.6%)
New Zealand	1 (5.6%)
Norway	1 (5.6%)
South Korea	1 (5.6%)
United Kingdom	2 (11.1%)
United States of America	9 (50.0%)
What is the highest level of education you have completed? (n=18)	
Secondary/high school	1 (5.6%)
Undergraduate	2 (11.1%)
Graduate	4 (22.2%)
Doctoral	11 (61.1%)

Note. n = number. M = mean (i.e., average). Mdn = median. SD = standard deviation.

Figure 3 – Where Peer Review Interview Participants Currently Live (Global, Phase 2)



Note. n = 18, from 9 different countries.

Quantitative Data Analysis

Across both phases, all quantitative closed-response survey data were analyzed using SPSS to generate descriptive statistics.

Qualitative Data Analysis

Across both phases, qualitative data (i.e., open-ended survey responses, interview responses) were initially cleaned in Microsoft Excel and then imported into ChatGPT-5 mini (<https://chatgpt.com>) for very rough preliminary analysis to generate initial thematic patterns. Following the approach outlined by Creswell and Poth (2018), a more in-depth qualitative analysis of each individual participant response was then conducted through an iterative process involving open coding (verifying ChatGPT initial identified themes while identifying new possible themes), axial coding (cross referencing themes), and selective coding (verifying final themes through analysis of relationships among core themes). Throughout this process, initial themes were refined, merged, or newly developed as each participant response was reviewed against the emerging themes by the researcher while also tracking theme prevalence counts and selecting illustrative quotes for each theme. To ensure reliability, internal member checks were performed during the interview phase, as well as having an independent research team member review a random subset of responses to independently code and validate the identified final themes (Berg, 2009).

Generation of the World Esports Artificial Intelligence (AI) Ethics Guidelines

The qualitative data analysis process was replicated to create the first draft of the World Esports Artificial Intelligence (AI) Ethics Guidelines based on the survey results and relevant academic literature (Phase 1). Further revisions were made after the Phase 2 expert panel review feedback. Structured comparisons and consensus among the researchers and expert panel occurred to finalize any discrepancies of opinion.

Of note, several of the guidelines align with the EU (2016) General Data Protection Regulation (GDPR; <https://gdpr-info.eu>), including the Esports Training and Competition “General Guidelines” #1.1 (Human-Centered Oversight; GDPR Article-22), #1.2 (Informed Consent; GDPR A-4, 6 & 7), #1.3 (Legitimate & Ethical Data Sourcing; GDPR A-5, 6, 13, 14, 32, & 39), #1.4 (Legality & User Agreements; GDPR A-5 & 24), #1.5 (Privacy & Data Protection; GDPR A-1-99), #1.7 (Transparency, Explainability, & Justification; GDPR A-5, 13, 14, 22, 24, & 30), #1.8 (Role of Qualified Esports Professionals; GDPR A-22 and the EU AI Act), #1.9 (Do No Harm; GDPR A-5), #1.10 (AI Rule Enforcement Policy, Reporting, & Consequences; GDPR A-5, 22 & 24).

Declaration of Generative AI in Scientific Writing

In preparing this report, the authors occasionally utilized ChatGPT-5 mini to enhance readability. When this occurred, content was subsequently reviewed, revised, and finalized by the authors.

Results and Discussion

Open-response Survey Questions (Phase 1)

Defining AI in Esports and Examples

Survey Question 1: In the context of esports, what is your definition of artificial intelligence (AI)?
(If unsure, you may write "I don't know")

Table 3 – Survey Participants’ Definition of AI in the Context of Esports

Theme	Description	Prevalence	Illustrative Quote
Esports-specific Applications (In-game & Out-of-game) Sub-theme: NPCs or Bots	Defines AI as part of esports functions; bots, analytics, anti-cheat, training tools, etc.	36 (31.0%)	<i>“In esports, AI is the technology that analyzes player performance, detects cheating, quickly generates match statistics, and provides personalized feedback to players during training sessions. It also facilitates tournament organization and supports referee decisions, creating a fairer playing environment.”</i>
	AI in esports refers to AI-controlled units or non-player characters (NPCs), such as bots, minions, or creeps.	11 (9.5%)	<i>“A bot that makes moves and decisions in-game based on a pre-determined level of difficulty and predictive models.”</i>
AI as Analytical & Performance-Enhancing Tool	Focuses on AI’s ability to organize, analyze, provide feedback, perform tasks, and optimize performance based on obtained data.	34 (29.3%)	<i>“In the context of esports, Artificial Intelligence (AI) refers to the use of intelligent computer systems that can perform tasks typically requiring human decision-making, learning, and adaptation. Within games themselves, AI is used to power bots that provide training partners, simulate different playstyles, and adjust difficulty dynamically to suit player ability. Beyond gameplay, AI is becoming increasingly important in coaching and performance analysis. By processing large amounts of in-game data, AI can identify patterns in performance, highlight strengths and weaknesses, and even provide personalized feedback through replay analysis and predictive modelling.”</i>
AI as Algorithmic or Computational Systems	Defines AI through algorithms, machine learning (ML), deep learning, or large language models (LLMs).	34 (29.3%)	<i>“Computational tools such as algorithms, commonly conceived of as a conceptual black box and known as sets of instructions – pre-set, rigid, coded recipes that are executed when they encounter a trigger (Jin, 2021)– intended to solve future problems (Chun, 2021).”</i>
Uncertainty or Lack of Knowledge	Respondents explicitly unsure or listed “I don’t know.”	30 (25.9%)	<i>“Don’t know.”</i>
AI as Generative or Creative Tool	Mentions content creation, generative AI, or fan engagement.	16 (13.8%)	<i>“Artificial intelligence can encompass many elements of gaming and esports, such as the algorithms that govern character behavior, wayfinding, and more. However, recent usage more commonly focuses on "generative AI", or large language models trained on databases of material that help generate new insights or materials from existing patterns.”</i>

AI as Human-like or Intelligent Machine Behavior	Describes AI as technology that simulates human thinking, learning, or decision-making.	14 (12.1%)	<i>“Any technological advancement made to mimic human intelligence and decision making including but not limited to computer players, machine learning, chatbots, or smart assistants.”</i>
Domain-general Views (Non-contextual)	States that the definition of AI in esports is no different than other domains.	4 (3.4%)	<i>“I don't think AI is different in the context of esports from any other context. It is a technology that helps with data, organization, solving problems and much more if well used.”</i>

Note. n = 116. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *“I think AI in esports can be understood in two main ways. First, there's the in-game artificial intelligence - the AI that operates within the game itself. This includes things like the bots we practice against in training mode, or the minions in League of Legends that move automatically, or jungle monsters. Second, there are AI systems that support esports from outside the game. These are used for match analysis, player coaching, win prediction, and broadcast production. As you mentioned, since esports is inherently electronic sports, it's inseparable from AI. The games themselves are computer programs, after all.”*

Discussion: The most prominent themes in Table 3, esports-specific applications and AI as an analytical/performance tool, show that participants conceptualize AI primarily as a support technology that enhances competitive and operational efficiency, as well as competition integrity. Meanwhile, algorithmic and human-like intelligence themes form the conceptual and technical foundation of these understandings. A large proportion of uncertain responses indicates an ongoing AI literacy gap within esports participants and professionals, but it is possible the inclusion of “In the context of esports” at the beginning of the question confused some respondents. Several respondents limited their definition of AI in esports to only referring to in-game non-player character (NPC) bots. Finally, participants could proceed with the survey without answering this question which resulted in a lower response rate compared to other questions.

Data-Derived Definition of Artificial Intelligence (AI)

Based on the participant responses, in the context of esports, artificial intelligence (AI) was perceived to refer to the use of computational systems, including algorithms, machine learning, and large language models, that simulate human cognition to perform or support tasks related to competitive gaming. These systems are applied both within games (e.g., controlling bots, generating adaptive opponents, managing in-game behaviors) and outside games (e.g., analyzing performance data, assisting coaching, detecting cheating, predicting outcomes, automating content production, and enhancing fan engagement). Overall, respondents perceived that, in esports, AI functions as a performance-enhancing and analytical tool that learns from data to provide insights, feedback, and automation across gameplay, training, and organizational processes.

Survey Question 2: What are examples of AI used in esports? (feel free to describe specific types, tools, and brand names; or write "I don't know" if unsure)

Table 4 – Survey Participants’ Examples of AI in Esports

Theme	Description	Prevalence	Illustrative Quote(s)
Player Performance Analysis & Coaching Tools Sub-theme: Strategy & Tactics Identification & Development	AI used to evaluate, train, and provide personalized feedback for players/teams, including replay review, pattern detection, and training software. AI Tools Listed: Aimlabs (2), Blitz.gg, MetaTFT, Mobalytics (5), Omnic.ai (2), OP.GG, Razer, Your.gg	47 (40.5%)	<i>“Player performance and data analyses, improving player performance through bots and strategy simulations, uncovering cheaters, and enhancing audience experiences through a more personalized and insightful viewing experience.”</i>
	AI feedback tailored toward providing gameplay execution recommendations based on data.	13 (11.2%)	<i>“Strategies that can track game play to help anticipate future actions so a player will know how likely a given move might result a certain result.”</i>
Data Analytics & Predictive Modeling	AI-driven data mining, matchmaking, win prediction, draft simulation, or match outcome modeling. AI Tools Listed: YOLO, Deep.lol, GRID	41 (35.3%)	<i>“We used AI to analyze all of our opponents match histories (40 games) and came to conclusions on what maps to ban and what agents/heroes our opponents play based on their recent history.”</i>
Uncertain or "I Don't Know"	Respondents unsure or unfamiliar with examples of AI use in esports.	33 (28.4%)	<i>“There are several AI tools available on the market, not too familiar with them.”</i>
In-Game AI Opponents or Training Bots	Use of AI-controlled non-player characters (NPCs) or bot opponents for practice. AI Tools Listed: AlphaStar	23 (19.8%)	<i>“Neural networks that instruct reactive gameplay elements including the actions of some NPCs.” “Play against AI driven enemies.”</i>
Generative AI for Content Creation & Marketing	Generative AI tools for making visuals, videos, social media, branding/logos, & targeted advertising. AI Tools Listed: Sora 2	21 (18.1%)	<i>“Sponsorship/brand tracking software such as Shikenzo. Marketing tools, social media tools, content creation tools.” “For content creation to promote tournaments.”</i>
Broadcasting, Moderating, & Fan Engagement	AI for automated camera systems, broadcast content, highlight clip generation, real-time shoutcasting, chatbots/mods, & audience analytics. AI Tools Listed: Intel Bleep	16 (13.8%)	<i>“AI highlight and replay systems in broadcasts. Chatbots and moderation tools in Discord/Twitch.” “AI-assisted community moderation (e.g., the Intel “Bleep” system).”</i>
Anti-Cheat / Integrity Systems	AI for cheating detection, fairness monitoring, or anomaly detection. AI Tools Listed: Riot Vanguard, Valve Anti-Cheat (VAC)	13 (11.2%)	<i>“Anti-cheat systems are important too. Programs like Valve’s VAC and Riot Vanguard use AI technology to detect suspicious play patterns and catch cheaters.”</i>
Tournament & Business Operations	AI applications in tournament management, logistics, sponsorship tracking, and organizational analytics. AI Tools Listed: Shikenso	11 (9.5%)	<i>“Referee support: Assisting in objective decision-making during matches. Tournament management: Automatically scheduling matches and sharing statistics instantly.”</i>
General Use of LLMs or Research & Education Tools	Mentions of specific AI tools used for writing, learning, or reflective practice in esports contexts. AI Tools Listed: AI Professor (1), AWS, ChatGPT (4), Copilot, DeepSeek, Gemini, OpenAI (2), OISEO.ai, OSINT Framework, SAP	11 (9.5%)	<i>“I don't know any esports solely focused tools. So just the generics like OpenAi, Gemini, etc.”</i>

emerging as well, though they're still in the experimental stage. Anti-cheat systems are important too. Programs like Valve's VAC and Riot Vanguard use AI technology to detect suspicious play patterns and catch cheaters.”

Discussion: The data from Table 4 and Figure 4 reveal that respondents most frequently associate AI in esports with player performance enhancement and data-driven analytics – both for training and strategic optimization. Applications extend beyond gameplay into broadcast automation, fan engagement, anti-cheat integrity, and organizational management, reflecting the broad digitization of the esports ecosystem. The substantial presence of “I don’t know” answers (28.4%) underscores that AI literacy remains inconsistent across respondents, despite high visibility of AI tools in the industry. Only 3 respondents (2.6%) mentioned AI assisting players to help cheat during competition.

Use of AI in Esports Training

Survey Question 3: What are acceptable/ethical ways that artificial intelligence (AI) is currently being (or could be) used in esports for training (not during competition)?
(if unsure, you may write "I don't know")

Table 5 – Survey Participants’ Perceptions of Ethical Uses of AI in Esports Training

Theme	Description	Prevalence	Illustrative Quote
AI-Driven Performance Analytics, Feedback, & Coaching	Using AI tools to analyze personal or opponent gameplay or communication, provide coaching feedback, or develop strategies for improvement outside of competition, all with ethically sourced data.	67 (58.3%)	<i>“Analyzing statistics, specific game trends, team strengths and weaknesses, and common player patterns during the game.”</i>
Ethical Data Collection, Privacy, & Transparency	Ethical use of AI requires informed consent, legitimate data sources, transparency in methods, and privacy protection.	24 (20.9%)	<i>“I think any use of AI in training is acceptable, as long as the data sources are legitimate (i.e., freely available or provided with consent).”</i>
Uncertainty or Lack of Awareness	Responses indicating limited awareness or uncertainty about AI use in esports training.	22 (19.1%)	<i>“Not sure, it’s so early on and esports isn’t exactly the most ethical industry right now prior to AI’s adoption.”</i>
Simulation & Practice Bots	AI-generated opponents for simulated training scenarios or strategy testing using ethically sourced data that does not impact rank or competition seedings.	20 (17.4%)	<i>“Creating smarter practice bots to help players improve outside of competition.”</i>
Scheduling, Education, & Reflective Learning	AI can support practice scheduling, training design, education, & reflection, particularly in esports pedagogy & skill acquisition.	17 (14.8%)	<i>“To make training schedules but the schedules need to be reviewed by humans.”</i>
Human Oversight & Accountability	AI should assist rather than replace human decision-makers; coaches & players retain decision-making authority & responsibility.	10 (8.7%)	<i>“AI-based analysis of the opponents’ game style, getting tips for improving your own game and learning from others – assuming that you do the fact checking still with human brains.”</i>
Health, Wellness, & Emotional Monitoring	AI ethically supports players’ physical & psychological wellbeing by monitoring stress, fatigue, posture, or mood during training.	9 (7.8%)	<i>“Many ways to use AI to identify injuries and risk factors...to improve the health of esports athletes and the performance in and out of the game.”</i>

Any AI Use in Training is Ethical	No ethical concerns regarding AI use in training outside of competition.	5 (4.3%)	<i>“Any use is ethical for training.”</i>
Detect Cheating or Hacking	Use AI to help stop data being taken from players or teams immediately following or anytime outside of competitions.	1 (0.9%)	<i>“Acceptable ways would be: to detect cheating/hacking attempts during or post matches...”</i>
Digital Communication Monitoring	Using AI to monitor in-game practice communication and other forms of online communication.	1 (0.9%)	<i>“Monitoring in-game / online communication to help [promote] trust and safety of employees and stay on top of abuse, harassment, stalking, suicidal ideation, swatting, doxing, etc.”</i>

Note. n = 115. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *“In training, I don't find things that could be excessively unethical or unacceptable. As long as the data used for the players' AI training is collected through lawful means, there should be no issues.”*

Discussion: Most respondents emphasized data-driven training and personalized AI feedback as acceptable and ethical, especially only when used outside of competitions (Table 5). Ethical boundaries centered on data consent, transparency, and privacy, while others underscored the importance of human oversight to maintain fairness and authenticity in training. About 20% of participants expressed strong ethical concerns, with many asserting that data used by AI analytics in training must be sourced ethically (i.e., publicly available data or data obtained through informed consent of players/teams). The moderately sized (~19%) “I don’t know” subgroup suggests awareness gaps in understanding current AI training applications in esports outside of competitions. Simulation and practice bots were noted by about 17% of respondents, with consensus perceiving that practicing against adaptive AI bots that replicate real player behaviors to improve reaction time is “safe and ethical”, but using those bots to secretly analyze or copy another team’s private gameplay data sourced without permission (e.g., hacking) or using bots to improve rank or competition seeding are all “unethical.” Notably, only one participant reported using AI to detect hacking during training, while another mentioned employing AI to monitor players’ digital communications. However, the latter did not address potential privacy law implications related to recording without consent. Overall, ethical AI application in esports training was perceived to be the use of data-driven and adaptive technologies to enhance player performance, strategy, and wellbeing through analytics, simulation, and personalized coaching – while ensuring transparency, consent, and human oversight.

Survey Question 4: Do you have any ethical concerns surrounding AI use in esports training (i.e., AI use outside of competitions)? (yes or no)

Table 6 – Whether Survey Participants’ Have Ethical Concerns Regarding AI Use in Esports Training

Response:	Count (%)
Yes	55 (47.8%)
No	60 (52.2%)

Note. n=115; M=1.52; SD=.502.

Discussion: Participants slightly favor the idea that there are no concerns surrounding using AI in esports training outside of competitions (Table 6). Responses to survey questions 3 and 5 both indicate specific concerns for many participants, however.

Survey Question 5: If “yes” to question 4, what are unacceptable/unethical ways that AI is currently being (or could be) used in esports for training (not during competition)?

Table 7 – Survey Participants’ Perceptions of Unethical Uses of AI in Esports Training

Theme	Description	Prevalence	Illustrative Quote(s)
Using AI to Cheat or Exploit Game Systems	Using AI to create unfair advantages or bypass rules, such as auto-aiming, exploiting bugs, manipulating in-game rankings through bot accounts, or to counter anti-cheat software.	19 (38.0%)	<i>“We already have some sort of AI hacks (aim bots, map hacks) that would evolve using AI to be exploited without getting caught.”</i>
Loss of Human Oversight & Over-Reliance on AI	AI should not replace human coaches, human judgment, or player creativity.	19 (38.0%)	<i>“Recommending unhealthy training regimen, displacing humans entirely from coaching and fitness if overused. AI slop is a huge concern, and as with every corner of AI, taking humans out of the loop sets up significant ethical problems.”</i>
Player/Team Data Privacy & Consent Violations	AI should not be used for collecting, scraping, or sharing player or team data without consent; data origin and storage methods must be transparent, private, and safe.	14 (20.0%)	<i>“Providing AI with sensitive information or personal information with your players.”</i> <i>“Player monitoring without consent.”</i>
AI-only Methods Used for Training & Health-related Information	AI can promote overtraining & offer misinformed unhealthy recommendations if programs are not supervised by qualified human professionals.	8 (16.0%)	<i>“Simple administrative tasks are acceptable [to use AI], but not complex ones that have substantial consequences or health risks, like workout routines, travel plans, diets, etc.”</i>
Participant Unsure	Participant is unsure of unethical uses of AI in esports training.	6 (12.0%)	<i>“idk.” [I don’t know]</i>
AI Use That Can Lead to Legal Violations	AI misuses involving gambling, IP theft, or violation of child protection or data laws.	5 (10.0%)	<i>“Deep stat evaluations that could mask potential wagering manipulation by teams or players.”</i> <i>“IP laws and publisher rights should be respected.”</i> <i>“I don’t think it can distinguish between someone being a child, which could interfere with [Children’s Online Privacy Protection Act] COPPA compliance.”</i>
Using AI with a Lack of Transparency & Accountability	Using “black box” AI systems where data sources or AI decision-making processes are hidden to the user.	4 (8.0%)	<i>“Using AI without knowing where the training data comes from and how it is analyzed (black box).”</i>
Unfair Data or AI Tool Access & Competitive Inequity	Unequal access to data or advanced AI tools leading to inequitable training advantages; “AI pay-to-win” dynamics.	4 (8.0%)	<i>“Less so specific examples of misuse - but more so raising an equity concern around teams that may be able to afford advanced AI software for training where that may not be feasible for other teams/clubs. Both ethical guidelines at the user-end, and equity guidelines from competition organizers may be worth considering.”</i>

Using AI for Hazing or “Trash Talking”	Attempts to manipulate individuals psychologically or emotionally through toxic (e.g., disruptive, abusive, harmful, discriminatory) AI-created actions or communication.	3 (6.0%)	“Cheating, preventing other players from competing at their best level in any way not authorized by the rules of the game, fabrication of data, hazing or inappropriate speech or communication.”
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Note. n = 50. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *[Unethical uses of AI in esports training would be]: 1) “To create false identities or esports players profiles, 2) To manipulate statistics or performance training (ranking), and 3) To be the main information resource for esports players and removing the human participation (routines, training, health, etc.).”*

Discussion: Only participants who responded “yes” to survey question #4 were posed this question. The most frequently cited concerns as noted in Table 7 reflect a strong ethical boundary between fair skill development and technological exploitation, with an apparent fear that AI could take over human roles while providing unsafe training practices and unhealthy recommendations to players. Thus, participants perceived that AI could dehumanize esports training, undermine player creativity, harm player well-being, and could promote unethical coaching practices. Player and team consent for data use and privacy is also a concern. Equity and transparency emerged as cross-cutting ideas where some respondents stressed that AI tools must be used legally, and remain accessible, explainable, and supervised by humans without being used for toxic purposes to intentionally negatively impact opponents. A small minority of participants perceived unequal access to advanced AI tools can lead to inequitable training advantages (i.e., “AI pay-to-win” dynamics). However, this might not be perceived to be unethical if merely used in training and not competition. Certainly, using advanced technology or equipment not available to the public within an esports competition could offer a player or team an unfair advantage; this is akin to the “super shoe” controversy by World Athletics (2020) where “any shoe must have been available for purchase by any athlete on the open retail market (online or in store) for a period of four months before it can be used in competition” (para. 3). Similar rules might apply for esports equipment and advanced AI tools used in competition but for training purposes it might still be seen as ethical. Overall, participants felt that unethical AI use in esports training involves any application that undermines fairness, transparency, consent, privacy, or human well-being, such as exploiting game systems, collecting or misusing private data, automating training or replacing human coaching and oversight with AI systems.

Use of AI during Esports Competitions

Survey Question 6: Do you think there are any acceptable/ethical ways that AI is currently being (or could be) used during esports competitions?

Table 8 – Whether Survey Participants’ Believe AI Can be Used Ethically During Esports Competition

Response:	Count (%)
Yes	78 (70.9%)
No	32 (29.1%)

Note. n=110; M=1.29; SD=.456.

Discussion: Nearly three-fourths of participants perceive that there are ethical ways that AI could be or is currently being used within esports competitions (Table 8). Participants were not asked to specify examples, but perceived unethical ways are described in question 7.

Survey Question 7: If “yes” to question 6, what are acceptable/ethical ways that AI is currently being (or could be) used during esports competitions?

Table 9 – Survey Participants’ Perceptions of Ethical Uses of AI in Esports Competition

Theme	Description	Prevalence	Illustrative Quote(s)
Data Analysis for Performance & Strategy Not in Realtime	Using AI to help capture & analyze gameplay or stats, transcribe player communications, or develop post-match strategy, but not during live gameplay.	28 (37.3%)	<i>“In-game data analysis for coaches and analysts to use in advising the team in real time during breaks in play (timeouts or between rounds).”</i>
Broadcasting, Spectator, & Media Enhancements	AI improving the viewer experience through real-time stats and language translation, highlight reel generation, predictive analysis, stats for casters, or camera automation; not seen or heard by players or coaches in real time.	23 (30.7%)	<i>“For live streaming and tournaments with audience, automated feedback for viewers and casters if players were informed beforehand. Generating highlight reels if they are checked before dissemination.”</i>
Sub-theme: Chat Moderation & Safeguarding	Using AI for blocking live toxic chat and taking safeguarding measures is ethical.	5 (6.7%)	<i>“Blocking negative comments automatically.” “Protection of underage in gaming.”</i>
Monitoring Fair Play, Anti-cheat & Integrity Systems	AI used to detect cheating, prevent hacking, verify accounts, track match-fixing, or analyze prop betting; ensuring fair and transparent competition.	15 (20.0%)	<i>“Monitoring play for infractions / cheating / illegal software hacks.”</i>
Sub-theme: Refereeing & Rule Enforcement Support	AI assisting human referees with objective decisions & reviewing controversial plays.	9 (12.0%)	<i>“To help referees in the decisions.” “If AI is used as an assistant referee.”</i>
Training, Simulation, & Skill Development	AI collected competition data used for AI training tools or opponent simulations to improve performance; ethically acceptable when not used by players during competition.	12 (16.0%)	<i>“It can be acceptable for players to improve their skills as a training tool, to simulate opponents/scenarios for practice.”</i>
Organizational & Event Management Use	AI use in scheduling, tournament management, matchmaking, or seeding of teams/players.	6 (8.0%)	<i>“Competition organizer use of AI where the outputs are available to all teams/clubs within the competition.”</i>
Uncertainty	Some respondents expressed lack of knowledge about ethical uses of AI in esports.	6 (8.0%)	<i>“I don't know. I think AI has acceptable and ethical uses in competitions, but I don't know how it's currently used and how it could be used.”</i>
In-game Experience & NPCs Reactivity	Using AI to control non-player characters (NPCs) & enhance the in-game environment & player experience; AI within game design by game developers.	5 (6.7%)	<i>“Many applications of AI are already present during competition such as those which construct the environment of play.”</i>
Any AI Use that Does Not Interfere with Gameplay is Ethical	Any use of AI that does not harm the fairness of the competition is ethical.	3 (4.0%)	<i>“Anything that does not interfere with play (assuming a PvP game).”</i>

Player Health, Safety, & Wellbeing Monitoring	AI tracking physical or mental health indicators ethically, mainly for awareness & not for a competitive advantage.	3 (4.0%)	<i>“To compile information about fatigue, risk of injury – mental or physical.”</i>
Consent, Transparency, & Data Ethics	Ensuring AI systems are used with informed consent, data collection is transparent about when or where AI is used, and collected data is secure.	2 (2.7%)	<i>“[AI use in esports competition is ethical] if one consciously consents.”</i>
Equal Access	Emphasis that ethical AI use ensures that all players and teams have comparable access to AI tools & datasets.	2 (2.7%)	<i>“It could be used as a strategy/tactics evaluation tool for coaches that could relay changes to the team, as long as both of the team have the same access to this technology provided by the tournament organizer.”</i>
Accessibility & Inclusion	Using AI for real-time language translation for teammates or adaptive assistance for players with disabilities.	2 (2.7%)	<i>“To translate in real time players’ conversations.”</i>

Note. n = 75. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *“[Ethical uses of AI in esports competition includes employing it for] fair play (e.g., detecting cheating), accessibility (e.g., real-time support for players with vision/hearing impairments), broadcasting and engagement with fans (e.g., super quick turnaround on highlight clips and real time stats), and fairer seeding.”*

Discussion: As noted in survey question 6, 29% of respondents believed there are no ethical ways that AI is currently being (or could be) used during esports competitions. Regarding the current survey question 7, the most frequently perceived ethical applications of AI use during esports competition as seen in Table 9 involved scraping data (with consent and equal access) for performance analysis, strategy development, and creating training tools outside of gameplay, broadcast or spectator enhancements where AI assists coaches, analysts, and audiences without interfering in competitive play, and for fair play monitoring and anti-cheat systems, including the use of AI to preventing hacking or match-fixing, verifying accounts, analyzing betting metrics, or assisting with referee decisions. A minority of respondents identified ethical roles for AI in esports competition for uses such as organizational event management, game design characteristics, chat moderation and safeguarding, player safety monitoring, and for inclusion and accessibility uses. Of note, 4% perceived any use of AI in esports competition that does not interfere with gameplay is ethical, along with 8% citing a lack of knowledge of specific ethical AI use in esports competition examples. Across responses, a clear and consistent pattern of ethical expectations was found: AI was viewed as ethical when it ensures competitive integrity, enhances the broadcast experience for viewers, and operates transparently and equitably across participants with concurrent use not impacting real-time player gameplay performance and outcomes.

The only perceived ethical uses directly by players that could impact gameplay performance were using AI for: 1) real-time language translation for teammates, and 2) adaptive assistance for players with disabilities. Regarding the first, as long as equal access is afforded to all players/teams and a competitive advantage is not afforded to players/teams, permitting real-time language translation during competition seems like a reasonable accommodation as it is probable that the lag time necessary for AI translation would likely negatively impact performance communication. Regarding the second item, permitting AI use for players with disability while maintaining fair play for all is much trickier. Esports competition

organizers must take a nuanced approach with players with disabilities and using AI. In other words, competition organizers must develop thoughtful, highly individualized, and balanced policies regarding the use of AI by players with disabilities, particularly when competing with players who are not disabled. At the elite Olympic level of traditional sports, a separate event is held outside of the Olympic Games for athletes with disabilities, called the Paralympic Games (<https://www.paralympic.org>). The Paralympics operate through a classification system that groups athletes with similar impairments together, ensuring fair competition by minimizing the impact of a disability on an athlete's performance. Athletes undergo an evaluation to determine their sport class, which is based on how their impairment affects their ability to perform the specific sport, with winning determined by skill and athletic ability. Eligibility requires a permanent impairment in one of the ten eligible categories, such as impaired muscle power, vision impairment, or limb deficiency. Rules also govern the types of accommodations or modified equipment that can be used by participants. Specific grassroots esports tournaments aimed at attracting players with disabilities likely will have much less regulated rules concerning AI use during gameplay. While inclusion of esports players with a disability should be a goal for esports organizers, esports players with a disability should not be provided a competitive advantage over players without a disability through using AI accommodations for gameplay. All players and teams must have equal access and be made aware of accommodations afforded to players with disabilities prior to competition, but these accommodations must adhere to fair play and not afford players with any competitive advantage. See Hassan et al. (2024) for practical examples of accommodations for esports players and spectators with disabilities.

Many highlight the ethical distinction between AI use in esports training contexts versus live competition, echoing the “augmentation not automation” principle (Raisch & Krakowski, 2021) – mimicking what one participant noted: “AI in training should augment human learning, not automate decision-making in competition.” Collectively, findings highlight that ethical AI in esports competition is understood less as a replacement for human judgment and more as a tool for enhancing fairness, insight, and inclusivity within competitive environments.

Survey Question 8: What are unacceptable/unethical ways that AI is currently being (or could be) used during esports competitions? (if unsure, you may write "I don't know")

Table 10 – Survey Participants’ Perceptions of Unethical Uses of AI in Esports Competition

Theme	Description	Prevalence	Illustrative Quote(s)
Unsure	Participant is unsure about unethical ways that AI is currently being (or could be) used during esports competitions.	30 (28.3%)	“Not sure.” “I don’t know.”
Real-Time Coaching, Decision Support, or Strategy Assistance Sub-theme:	AI analyzing gameplay data in real time providing in-game tactical advice, probability predictions, or mid-match feedback to players or coaches, giving unfair competitive advantages is unethical.	28 (26.4%)	“Live coaching/analysis of opposition in-game.” “To provide coaching to players DURING a match (unfair advantage).”
Use of AI Mid-match During Timeouts	Using AI mid-match during timeouts or other breaks in play is unethical.	2 (1.9%)	“Using timeouts to ask generative AI to formulate plays, strategies, or counterplays that has not been previously trained or coach led.”

	Using AI mid-match during timeouts or other breaks in play is ethical.	1 (0.9%)	<i>"Give you insight in real time versus getting halftime communication and feedback from a coach or during a timeout."</i>
AI-Assisted Gameplay Manipulation	Using AI to control aim, movement, or reflexes, or exploiting game mechanics such as using auto-aim or macros; letting AI "play" instead of the human.	26 (24.5%)	<i>"Auto aim or in-game mechanics altered via macros, etc." "Using AI to cheat like aimbots, automated decision-making, gaining unfair advantage."</i>
AI Overreach & Loss of Human Element	Allowing AI to replace human decision-making or skill (including refereeing), while undermining the human-centered nature of esports competition.	26 (24.5%)	<i>"AI to play masquerading as humans; AI to augment human gameplay." "We shouldn't remove the human element...The human will make the final call."</i>
Unequal Access or Unfair Advantage	Some teams or players having access to AI tools or AI-generated analytics during gameplay while others do not, creating competitive inequity.	24 (22.6%)	<i>"First, everyone should have the exact same opportunities and rules; everything else is unacceptable and shifts the focus of the competition from the game to the AI skills."</i>
Unfair Data Access & AI-Assisted System/Information Exploitation	Using AI to bypass or infiltrate game systems – such as wall/map hacking, accessing hidden telemetry, predicting or manipulating RNG, altering matchmaking parameters, or interfering with game servers or data flows – to reveal concealed game information or undisclosed analytics that can illicitly modify in-game outcomes.	22 (20.8%)	<i>"Match manipulation, wall hacking, etc." "If AI is being used...to manipulate RNG." "[AI] turning into a software hack."</i>
Privacy, Consent, & Data Misuse	Collecting, storing, or sharing player data (e.g., performance, biometric, or personal) without consent or secure handling, or for longer than necessary.	7 (6.6%)	<i>"Retaining the personal or performance data of stakeholders for longer than necessary can be a legal issue." "Team/player use of AI (an example might be during the drafting phase in some titles) without knowledge or consent of organisers/opposing team."</i>
No AI Use In-Game is Ethical	Any use of AI by players during an esports competition is unethical.	5 (4.7%)	<i>"Every way is unacceptable during a competition. Giving any player an edge, for any reason, is unacceptable and unethical."</i>
AI-Assisted Result Tampering	Using AI to intrude into game servers or data pipelines to alter official match results, modify recorded outcomes, corrupt telemetry logs, or fabricate in-game events after or outside of normal gameplay.	3 (2.8%)	<i>"Using AI to infiltrate an aspect of game play in the server in order to manipulate outcomes, telemetry, etc."</i>
Bias, Impersonation, & Deepfakes	Creating AI "replicas" or likenesses of players, fake identities, or misleading media (AI-generated voices, video, or clips) without permission.	3 (2.8%)	<i>"To create false identities or esports profiles." "Generally AI art and deepfakes are ethically questionable... – i.e., using AI music during broadcast, or replacing casters with deepfakes of someone else, etc."</i>
AI Replacing Paid Human Labor	The use of AI systems to perform tasks traditionally done by paid humans, such as creating content, generating voices, or impersonating talent, potentially displacing workers or enabling unethical substitutions.	3 (2.8%)	<i>"Applications of AI which replace paid labour." "AI voice generations."</i>

Broadcast & Media Misrepresentation	Using AI to produce misleading statistics, fake clips, or manipulated audio commentary that misinforms fans.	3 (2.8%)	<i>“Exaggerated stats/fake clips – misleading fans.” “Viewer manipulation: Presenting false information to the audience by distorting data using AI.”</i>
Nontransparent AI Decision-Making (“Black Box” Systems)	AI tools used without transparency, where data sources, algorithms, or outcomes are hidden from oversight.	2 (1.9%)	<i>“If AI is being used to balance the game without disclosure.”</i>
AI-Driven Gambling Manipulation	Using AI for unethical betting prediction, promoting gambling behavior, or targeting vulnerable players/fans.	1 (0.9%)	<i>“AI used in esports/video games to push people toward online casinos/gambling sites – collecting data on people who may be more susceptible to these harmful behaviours and may even prey on younger kids to get them hooked to gambling like elements.”</i>
Cultural & Inclusion Concerns	Training AI on biased data that ignores regional, linguistic, or cultural diversity, reinforcing inequality or exclusion.	1 (0.9%)	<i>“Training AI using biased big data which doesn’t [consider] cultural nuisances or uniqueness to promote inclusion.”</i>
AI-Assisted Player Harassment	AI tools that amplify harassment or disruptive in-game behavior, undermining fair play and negatively affecting player experiences.	1 (0.9%)	<i>“Applications of AI which...facilitate cheating and/or griefing.”</i>
AI-Based System Sabotage and Performance Degradation	AI tools designed to sabotage competitors by degrading their hardware or software performance unfairly manipulating competitive conditions.	1 (0.9%)	<i>“Cheating, Spyware, performance degradation.”</i>

Note. n = 106. RNG = random number generator. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *“Everything giving one team or player an unfair advantage that deviates from the esports game design or intent of the competition, such as aim bots, additional in-game feedback, etc.”*

Discussion: The thematic analysis of participants’ perceptions of unethical uses of AI in esports competition reveals a broad spectrum of ethical concerns and potential impacts on gameplay, competition, and the wider community (Table 10). Key themes include the use of AI for real-time coaching, player decision support, or strategic assistance raising questions about fairness and competitive integrity. However, participants appeared to be split on whether AI use should be allowed during mid-match timeouts. Other prominent concerns involve AI-assisted gameplay manipulation (e.g., auto-aim, macros) and AI overreach that diminishes the human element and player skill execution. Unequal access to AI tools and AI-generated feedback that may create unfair advantages also emerged.

Data privacy, consent, and the misuse or secure storage of sensitive information collected by AI also surfaced, which appear to intersect with issues of unfair data access and system exploitation. Additional concerns include result tampering, bias, impersonation, deepfakes, and replacing paid human labor during esports competitions with AI systems, all of which run the risk of distorting outcomes or misrepresenting esports participants in broadcasts and media. Themes around nontransparent “black box” AI systems, AI-driven gambling manipulation, cultural and inclusion concerns, player harassment, and opponent system sabotage also were voiced, highlighting both ethical and safety risks, emphasizing

the need for careful human oversight, equitable access, and transparent use of AI technologies in esports.

Interestingly, almost 5% of participants noted that no use of AI by players during esports competitions was ethical. Across all themes, fairness, respect for opponents, integrity, consent, and equal access is apparent, where one team or player does not gain an unfair advantage. Relating to AI data collection and feedback in real time, one participant voiced concerns on unequal access across participants and called it “information dissymmetry”. Overall, it appeared that most participants felt that players or coaches using AI in-game, providing real time information to players or feedback not humanly capable of achieving, particularly without consent or not equally across participants, was unethical, as well as direct AI gameplay manipulation that leads to unfair advantages. In other words, AI must never intrude within competition, nor obscure the authenticity of human skill, decision-making, or consent.

Establishment of World Esports AI Ethics Guidelines

Survey Question 9: In your opinion, is there a need for the establishment of World Esports AI Ethics Guidelines?

Table 11 – Whether Survey Participants’ Perceive there is a Need to Establish World Esports AI Ethics Guidelines

Response:	Count (%)
Yes	73 (68.9%)
Maybe	24 (22.6%)
No	9 (8.5%)

Note. n=106; M=1.40; SD=.643.

Discussion: A little over two-thirds of participants perceived that there is a need to establish World Esports AI Ethics Guidelines (Table 11). Rationale likely relates to responses noted within survey questions 3 (Table 5), 5 (Table 7), 7 (Table 9), and 8 (Table 10).

Survey Question 10: Why or Why Not? Briefly explain your above response regarding question 8.

*Table 12 – Survey Participants’ Perceptions of Why there **Is**, or Why there is **Not**, a Need to Establish World Esports AI Ethics Guidelines (Categorized by Yes/Maybe/No Responses from Question 9)*

Theme	Prevalence	Illustrative Quote(s)
Guidelines Can Help Competition Integrity, Transparency, & Fair Play	36 (34.0% of Total) *31 (42.5% of yes) 3 (12.5% of maybe) 2 (22.2% of no)	“Integrity needs to be upheld.” (Yes) “As with any context, the emergence of a new technology brings certain opportunities that some will seek to exploit – as such, regulation is needed to ensure a level playing field and limit potentially exploitative or malicious use of the technology (in this case, AI). Esports is not exempt.” (Yes)
Consensus of Ethical/ Unethical Uses & Standardization of Guidelines Must be Achieved	32 (30.2% of Total) *31 (42.5% of yes) 1 (4.2% of maybe) 0 (0.0% of no)	“I think [AI] should be codified in a consistent manner across all competition, as opposed to each competition handling it piecemeal.” (Yes) “We need to start somewhere, with an alignment on positions and what is acceptable/unacceptable.” (Yes)

Need for Guidelines due to Esports' Digital Nature & Society's Rising AI Use	16 (15.1% of Total) 16 (21.9% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	"AI is becoming part of our everyday lives just as the internet is now. It is only a matter of time until bad faith actors use AI in video games maliciously." (Yes)
Guidelines Must work with Publishers, Leagues, ESIC, Orgs, &/or Player Unions	14 (13.2% of Total) 9 (12.3% of yes) 3 (12.5% of maybe) 2 (22.2% of no)	"I'm not sure people will follow [the guidelines] unless they come from game publishers." (Maybe) "Because we have ESIC, [the guidelines] should be under them. AI is not new and is not something that needs a new set of guidelines. It needs to be linked to competitive integrity..." (No)
Guidelines are Needed if Human Performance or Direct Gameplay is Influenced by AI	12 (11.3% of Total) 9 (12.3% of yes) 2 (8.3% of maybe) 1 (11.1% of no)	"[Guidelines are needed] only if the human performance is augmented or influenced by AI." (Maybe) "Because AI could be used inside matches to [forewarn] an opponents tactics maybe." (Yes)
Guidelines can Help Anticipate & Prevent Future AI Ethical Concerns in Esports	11 (10.4% of Total) 9 (12.3% of yes) 2 (8.3% of maybe) 0 (0.0% of no)	"I understand why there is a need to discuss and address this issue to raise people's awareness in the industry, and for potential risk control for the future." (Maybe) "Having these guardrails/guidelines in place upfront can avoid the creation of downstream problems by getting people aligned from the outset on the right and wrong ways of using AI in esports." (Yes)
Difficulty Standardizing Guidelines Across Varying Games, Cultures, Country Laws, or Contexts	10 (9.4% of Total) 4 (5.5% of yes) *5 (20.8% of maybe) 1 (11.1% of no)	"What is 'ethical' often varies by culture...If someone wants to create a list of suggestions/guidelines and best practices that would be valuable, but it cannot ever be treated as more than that." (No) "It's not purely black and white as each game and expectation is different." (Maybe) "It is very difficult to set up a universal standard for AI because it depends on each country that is in favor or not in favor with the use of AI." (Maybe)
Guidelines Help Safeguard Player Welfare, Data, Privacy, & Human Labor	9 (8.5% of Total) 9 (12.3% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	"Yes,...all parties involved in esports should not have jobs or positions removed due to AI." (Yes) "To safeguard players/teams/support staff/audience and their associated data." (Yes) "Not having one risks harming lots of parties." (Yes)
Guidelines can Help Raise Awareness & Educate Others	8 (7.5% of Total) 6 (8.2% of yes) 2 (8.3% of maybe) 0 (0.0% of no)	"The establishment of an AI Ethics Guideline would provide some framework for good faith actors to follow and help facilitate education within the field and the public." (Maybe) "To provide a framework or ruleset to inform players or teams what is and isn't okay to use AI for." (Yes)
Unsure if there are any Problems or Not Concerned about AI Use in Esports	8 (7.5% of Total) 0 (0.0% of yes) 4 (16.7% of maybe) *4 (44.4% of no)	"I see currently no reason to worry about AI in esports, similarly to traditional sports." (No) "I haven't seen AI play a problematic role [in esports] yet. I might just be unaware though." (Maybe)
Guidelines Must have Mechanisms to Enforce Rules with Consequences	6 (5.7% of Total) 3 (4.1% of yes) 3 (12.5% of maybe) 0 (0.0% of no)	"There has to be accepted use and repercussions for improper use." (Yes) "When money is involved, people will always try to game the system. If they know there are mechanisms to enforce rules and the punishments are severe, they are less likely to engage in bad behavior." (Maybe)
Guidelines Help Promote Equitable Access for All Participants, Including AI Tools	6 (5.7% of Total) 6 (8.2% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	"To make sure everyone has the same access to all the tools available." (Yes) "There are significant global disparities in who has access to AI and who is able to use it to improve their outcomes. Clear guidelines on use will help ameliorate these and allow all competitors to thrive." (Yes)
Guidelines Help with the Growth & Sustainability of Esports	5 (4.7% of Total) 5 (6.8% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	"AI and esports are both relatively new players in the competition space. We need well-educated experts from around the globe in both fields to chime in and collaborate on ethical guidelines for the future sustainability of esports." (Yes)

Guidelines Help Professionalize Esports & its Structural Governance	4 (3.8% of Total) 4 (5.5% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	<i>"To further professionalise esports and its structures." (Yes)</i>
Anything that Enhances Esports Performance Needs Regulation	4 (3.8% of Total) 4 (5.5% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	<i>"Anything that can lead to performance enhancement needs to be regulated. It is essential that everyone gets equal chance to perform and compete. Gaming has to some degree a luck factor and by leaving AI unregulated it can lead to various unwanted outcomes." (Yes)</i>
Guidelines Should Not Hinder Growth & Development	3 (2.8% of Total) 0 (0.0% of yes) 2 (8.3% of maybe) 1 (11.1% of no)	<i>"Some guidelines are important, but it should be flexible as it should not hinder growth and development." (Maybe)</i>
Guidelines must be Flexible & Updated Regularly to Adapt to New Technology	3 (2.8% of Total) 2 (2.7% of yes) 1 (4.2% of maybe) 0 (0.0% of no)	<i>"Guidelines could help prevent unfair use and protect competition integrity, but they should stay flexible to adapt as technology evolves." (Maybe)</i> <i>"We also need to prepare to update the guidelines regularly as AI evolves rapidly." (Yes)</i>
Defining the Scope of AI in Esports & Offering Clear Guidelines Rationale is Needed	3 (2.8% of Total) 1 (1.4% of yes) 2 (8.3% of maybe) 0 (0.0% of no)	<i>"Before we make esports ethics guidelines, we need to define the scope of AI technology in esports." (Maybe)</i> <i>"I am unsure if we need esports-specific guidelines. I think clear rationale is needed to outline why they need to be specific for esports." (Maybe)</i>
Guidelines Not Needed Yet	3 (2.8% of Total) 0 (0.0% of yes) 1 (4.2% of maybe) 2 (22.2% of no)	<i>"AI is not prevalent in esports in any meaningful way & likely will have no impact on the industry. Larger issues to worry about!" (No)</i> <i>"I'm not exactly sure how AI would become overpowered but when that day comes I believe there should be guidelines but until then I think its fine." (Maybe)</i>
Guidelines Needed to Promote Spectator Trust & Protect Esports' Reputation	2 (1.9% of Total) 2 (2.7% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	<i>"AI is an extremely powerful tool that seems to be highly prone to exploitation. We need to enforce guidelines early to minimize the unethical exploitation in Esports. Otherwise, it may cause irreparable damage to the Esports image." (Yes)</i>
General AI Ethics Guidelines Already Cover Esports Adequately	2 (1.9% of Total) 1 (1.4% of yes) 1 (4.2% of maybe) 0 (0.0% of no)	<i>"Very forward-thinking which I like, but currently I don't really experience too separate concerns for esports regarding AI that are not covered by general AI ethic guidelines." (Maybe)</i>
AI in Esports Guidelines will Help Define What are Esports	1 (0.9% of Total) 1 (1.4% of yes) 0 (0.0% of maybe) 0 (0.0% of no)	<i>"AI will become ubiquitous, especially in high-data digital environments such as esports. Rules must be made clear that AI has no place in human-to-human competition. If esports games begin inherently using AI, the rules for qualifying as esports must be clarified." (Yes)</i>

Note. n = 106 total; n = 73 "Yes"; n = 9 "No"; n = 24 "Maybe". * = top response for that category. ESIC = Esports Integrity Commission. Individual responses may incorporate multiple themes as prevalence counts are non-exclusive. Percentages represent the total percentage of respondents that alluded to the theme.

Summary Representative Quote: *"[Guidelines are needed] because artificial intelligence is increasingly being used in both training and competition in esports. Common ethical rules are essential to protect fair competition, protect player rights, prevent cheating, and ensure spectator trust. Establishing an international standard will increase the trust of both players and organizers, contributing to the sustainable and transparent development of esports." (Yes)*

Discussion: Survey participants overwhelmingly supported the creation of World Esports AI Ethics Guidelines, with the majority of comments coming from respondents who had answered "Yes" (Table 11). As seen in Table 12, the most prevalent justification, representing over one-third of all responses, argued

that guidelines are essential to protect competition integrity, transparency, and fair play. Respondents also highlighted expectations that AI will be exploited if left unregulated, threatening trust in competition. Closely aligned, over 30% of total responses emphasized the need for consensus and standardization, advocating for unified, globally consistent rules instead of fragmented policies across leagues or events. Another notable rationale to establishing guidelines pointed to esports' inherently digital nature and society's increasing reliance on AI, along with guidelines would be a proactive safeguard against misuse in a high-tech competitive context (15.1%). However, 13.2% total participants stressed that any guidelines must be collaboratively developed with key stakeholders, including game publishers, leagues, integrity commissions (e.g., Esports Integrity Commission), esports organizations, and player unions, to ensure legitimacy and adoption. Participants (11.3%) also asserted guidelines are necessary when AI influences human performance or assists gameplay directly. Another 10.4% of respondents emphasized anticipatory governance, suggesting guidelines could prevent emerging ethical harms and align industry expectations early. Though less common, respondents valued guidelines for safeguarding player welfare, data, privacy, and human labor (8.5%), promoting education and awareness (7.5%), and ensuring equitable access to AI tools (5.7%). Some argued guidelines could facilitate industry growth, sustainability, and the professionalization of esports governance.

In contrast, the skeptical and hesitant minority largely centered on uncertainty and feasibility. The most frequent hesitation (9.4%) cited difficulty creating universal standards across different games, cultures, or legal jurisdictions, which was also the most prevalent response for "maybe" respondents (20.8%). A separate cluster (7.5%) stated they had not yet observed problematic AI use in esports and were unconvinced of the need for guidelines. The most frequent response for those believing that the guidelines were not needed cited uncertainty regarding problems or were not concerned about AI use in esports (44.4% of "no" respondents). Others argued guidelines should be flexible, not hinder innovation, or not necessary until AI becomes more impactful in esports. A small number suggested existing AI ethics frameworks already cover esports or proposed that esports guidelines may even help define what constitutes esports competition.

Overall, the responses reveal clear majority support for esports-specific AI ethics guidelines, rooted in concerns about fairness, misuse, and industry legitimacy. However, respondents also highlighted meaningful tensions: enforcing standards globally, adapting to emerging technologies, and avoiding premature or overly restrictive regulation. Together, these perspectives indicate an appetite for collaborative, flexible, and proactive guidelines that balance competitive protection with the evolving digital realities of AI in esports. As one survey participant noted: *"esports is uniquely global and digital making it more vulnerable to AI misuse but also the perfect testing ground for responsible, transparent, and fair AI adoption. Establishing World Esports AI Ethics Guidelines would set a benchmark not only for esports but also for broader digital sports and entertainment industries."*

Limitations and Future Research

Several limitations should be acknowledged when interpreting the findings and recommendations of this report. First, although survey responses were collected from individuals involved in esports, it is possible that some respondents used generative AI tools to complete the survey rather than providing answers based on their genuine experiences or professional judgment due to their familiarity with AI. This limitation may have influenced the accuracy, authenticity, or consistency of the qualitative data. We incorporated validation steps such as follow-up interviews to try and counteract this threat, but future studies could also incorporate response-pattern screening or AI-detection methods.

Next, many aspects of AI use within competitive esports are still in their early stages of development. Because AI technology is evolving rapidly, it is difficult to capture a complete picture of its future impacts. In many cases, “we do not yet know what we do not know.” This uncertainty represents a methodological limitation but also underscores the need for ongoing monitoring and regular policy updates. As AI capabilities advance (e.g., AI-generated game modes), newer forms of competitive manipulation, player monitoring, or strategic automation may emerge that were unforeseeable at the time these guidelines were developed. Similarly, as autonomous agent competitions may popularize and the definition of esports evolves, its AI ethics guidelines will need to adapt accordingly. Furthermore, in the participant responses, “artificial intelligence” often functions as an umbrella term encompassing a diverse set of computational tools, including systems that may not meet strict technical definitions of AI, which may have influenced how respondents interpreted and described AI use within esports.

Another limitation involves the practical challenges of implementing AI regulation. Developing and enforcing comprehensive AI-related rules requires significant financial, technical, and administrative resources. Many esports organizations, particularly scholastic, amateur, or smaller regional leagues (e.g., Tier 3), lack the funding to adopt robust AI-detection systems or to conduct thorough audits of AI-assisted gameplay. Additionally, some AI enforcement mechanisms would require close collaboration between game publishers, tournament organizers, and third-party integrity bodies. Such multi-stakeholder cooperation is often difficult to achieve due to proprietary technology, competitive business interests, and differences in resources and governance structures. At the same time, AI technologies may also serve as important esports accessibility and inclusion tools. However, the adoption of such tools ultimately depends on the policies and technical allowances of game publishers and platform providers, who retain final authority over permissible technologies. Consequently, lower-tier stakeholders using off-the-shelf AI tools often have limited agency, underscoring the importance of proportionate and potentially tiered regulatory expectations.

Despite these limitations, the evolving nature of AI also presents opportunities for future research. Because esports differs from traditional sports in its online digital foundations, near-real-time data, and collaborative developer involvement, future researchers should explore guidelines that reflect these unique characteristics. Potential directions for further inquiry include:

- Developing a “Tiered Responsibility Model” for AI governance in esports and clarifying how ethical and legal obligations differ across varying types of stakeholders: from resource-limited scholastic teams and amateur clubs to professional esports organizations and game publishers with enhanced capacity to build, audit, or fully create and explain their own proprietary AI systems.

- While not a regulatory framework, the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) developed AI standards through their joint technical committee, ISO/IEC JTC 1/SC 42 AI (<https://www.iec.ch/ai>). Future esports AI ethics research might examine where current ISO/IEC standards fall short for esports-specific contexts and identify opportunities for domain-specific extensions.
- Evaluating how AI can support player wellness without becoming a tool for competitive exploitation or intrusive surveillance.
- Identifying cost-effective and scalable AI-detection or audit systems suitable for scholastic, collegiate, and amateur esports leagues.
- Creating more user-friendly AI data analysis software tools to more easily share and analyze game data sets (e.g., Bialecki et al., 2025, for *StarCraft II*).
- Researching integrity concerns surrounding AI uses for niche areas of esports such as motion-based video gaming, augmented/virtual reality gaming, virtual sports, etc.
- Exploring AI in esports regulatory models for coordinated governance that integrate publishers, tournament operators, integrity bodies, and players' associations.
- Investigating how AI may reshape roles within esports organizations such as coaching, analysis, officiating, and identifying protections needed to avoid inappropriate labor displacement.
- Studying the long-term effects of AI-based training tools on player development, burnout, and competitive balance.
- Continuously reassessing the ethical boundaries of permissible AI use as new capabilities emerge (e.g., real-time agentic assistants, predictive strategic AI, biometric modeling).

Finally, because professional esports typically set the cultural and regulatory precedents for scholastic and collegiate programs, future research should examine how professional-level AI policies can be adapted downstream. Understanding how high-level standards influence grassroots and youth esports ecosystems will be essential to ensuring safety, fairness, and competitive integrity across all levels of play.

Conclusion

These guidelines provide best-practice recommendations designed to protect player safety, fairness, and competitive integrity while allowing legitimate, beneficial uses of AI in training and competition. They prioritize human authority, informed consent, transparency, and legal compliance, striking a practical balance between innovation and ethics. However, guidelines should encourage responsible innovation, not block progress. AI in esports training should be used to support player development, health, and post-match learning that enhance skills without leading to unfair in-game rankings or seedings. AI use in esports competitions is generally viewed as ethical when it does not interfere with gameplay, compromise fairness, or substitute human decision-making.

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