Unregulated authorities: An ethnographic study on how streamers impact cheating dynamics in online gaming*

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Abstract

Cheating is a significant issue in multiplayer video games, extending beyond a simple "technical matter" to encompass a variety of social interactions within a complex ecosystem. In this paper, we report the findings from a multi-year ethnography in *Call of Duty: Warzone* on the emergent role that streamers and content creators play in shaping the cheating phenomenon. We discovered that these figures gain authority by substituting formal and informal mentorship, which is rarely available within the game. Furthermore, the lack of clear codes of conduct regarding in-game illicit behaviors leaves room for the emergence of alternate "regulators". In this context, streamers and content creators become moral authorities in charge of establishing what is "good" and what is "bad" in the game, producing, nonetheless, power asymmetries that may intensify conflicts within the game community.

Keywords

cheating, video games, streamers, esports

1. Introduction

Cheating is acknowledged as one of the biggest challenges in online gaming environments, particularly in highly competitive video games like First-Person Shooters (FPS) [1]. It may damage the gaming company's reputation [2] and undermine the players' experience [3], eventually leading to game abandonment [4]. From a mere technical point of view, cheats are software that allows players to execute actions and acquire abilities that would not be possible in the original game, like automatically aiming at opponents [5].

However, more than a technical issue, cheating is primarily a "human" phenomenon, which occurs in specific cultural and social contexts [5], entailing in-game values like those emerging from the neoliberal culture [6], and social dynamics like behavioral contagion [5]. Its understanding, therefore, requires an inspection lens that is able to uncover the "human reasons" behind its increasing spread, as well as its "human consequences" on players, particularly considering the wider "ecosystem" in which cheating unfolds. In this perspective, the social wire characterizing extremely popular contemporary video games, like *Call of Duty: Warzone* (a.k.a., "COD: Warzone" or simply "Warzone"), is not limited to players alone. Here, diverse figures contribute to creating the gaming culture and the social norms that regulate the game and the interactions among players, thus potentially impacting the unfolding of cheating [6, 7]. In particular, streamers are progressively playing a more important role in multiplayer video games. For example, Warzone counted 100 million players in April 2021 but also gained enormous popularity across social media that involve streamers and followers, reaching 750,000 live viewers in April 2021 [8].

In this context, it comes as no surprise that streamers may influence cheating practices. Previous research has highlighted that streamers may shape players' perceptions and the ways they play a game, even impacting cheating practices, particularly in games where technical anti-cheat measures are perceived as insufficient or unreliable [9, 10, 11]. However, there is still a

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considerable gap in the understanding of the reasons why streamers gain "the power" of influencing the cheating practices, since limited research has investigated the phenomenon from this perspective. This paper builds upon prior studies that explored the role of streamers as "influencers" [9, 10, 11], even potentially affecting perceptions of cheating, and aims to unveil the conditions that enable them to assume a normative role, as well as the broader implications of their "power" for the gaming communities.

With this aim, we conducted multi-year ethnographic research in the Warzone Italian gaming community, using participant and non-participant observation, document analysis, informal conversations, and semi-structured interviews. In doing so, we focused our study on the contexts of casual play and esports, as here the consequences of cheating are relevant: while casual players may abandon the game due to an unsatisfactory game experience, for esports players "fair play" is a crucial requirement when engaging in tournaments. We thus considered players playing "just for fun" and amateur esports players who, despite competing within esports organizations (amateur sports association, "ASD", in Italian), receive little to no compensation. The rationale for focusing on amateur esports lies in its broader diffusion compared to professional esports, which may lead to insights with wider-reaching implications.

Specifically, we aimed to answer the following research questions: What roles do streamers and content creators play in relation to cheating in Warzone (RQ1)? Why, if so, do streamers gain significant authority in influencing the perception of cheating (RQ2)? What are the consequences of this authority on players (RQ3)? Consistently to these questions, the study findings tackle three main themes: (i) the increasingly important role of streamers and content creators in Warzone as mentors providing guidance to players, which in turn gives them the authority of judging cheating behaviors; (ii) the lack of coherent regulations that may govern cheating practices, which further strengthens the streamers' authority as "moral judges" of players' actions; (iii) the risks associated with relying on streamers for guidance.

In this way, we make a substantial contribution by offering a detailed picture of the reasons why streamers and content creators are emerging as authorities in contemporary gaming environments. Moreover, we apply Becker's [12] theory of moral entrepreneurship (see Section 2.2) to interpret the study findings, revealing how "deviance" can be defined and regulated by emerging figures of the digital realm. This extends the relevance of this theoretical framework to contemporary online gaming ecosystems by identifying streamers as a novel category of "moral entrepreneurs".

2. Related works

2.1. Understanding cheating in online games

In online gaming, cheating extends beyond the mere use of code modifications and may be best understood as a complex socio-technical phenomenon, where technical and social factors converge to shape its definition, perception, and management [9]. Research highlights that cheating is not a static or universally understood rule-breaking behavior: it is rather continuously redefined through the interactions among players [5], developers [13], and community norms [7], which determine what is deemed acceptable or deviant behavior in the game environment.

For example, players' definitions of deviant behavior vary significantly across communities [14]. Game design features (e.g., competitive intensity, the visibility of performance metrics) shape the stakes of gameplay and, therefore, how cheating is perceived and managed, as shown by Dumitrica [6]: for instance, cheating in multiplayer games is considered less acceptable compared to solo games, where players may employ cheat codes to advance in the game [15]. Game genres also play a role in determining players' attitude to cheating, and competitive titles - like FPS or Multiplayer Online Battle Arena (MOBAs), are more likely to draw attention to cheating practices due to their focus on performance. Moreover, certain practices may be tolerated or banned depending on whether players engage primarily for leisure or competition [9]. This peculiarity is further

amplified by the sophistication of modern cheats, which are increasingly difficult to detect and contribute to creating a sense of uncertainty in multiplayer contexts [16]. Even though certain forms of cheating are occasionally seen as "creative deviance" [17], cheating is predominantly viewed as a destructive force within gaming communities, eroding trust, fair competition, and overall player enjoyment [15, 3]. This "dark behavior" thus has the potential to disrupt player experience and foster a broader environment of chaos and distrust [9]. This pervasive, negative atmosphere engendered by cheating underscores the importance of understanding how such behavior is collectively managed within gaming communities.

2.2. The wider ecosystem of cheating

The ambiguous nature of cheating creates an environment where players have limited resources to recognize or address this behavior when it occurs. Therefore, prominent figures such as streamers and content creators may leverage their knowledge to affect players' perceptions of fair play. King and de la Hera [11] point out that streamers may influence how players perceive and play a game, by inspiring collaboration, competition, curiosity, and commitment. Johnson and Abarbanel [10] show that spectators perceive streamers' cheating practices depending on their supposed goal in the streamed matches: while they have a low tolerance for streamers' cheating to win practices, they are more accommodating when they deliberately underperform to manipulate the result for betting fraud. Consalvo's [15] seminal work emphasizes the importance of looking beyond the game itself to understand cheating dynamics, introducing the concept of "paratextual industries" – external elements such as guides, tip lines, and modding tools that set expectations about what is possible and acceptable within gaming ecosystems. However, she did not directly explore the role of streamers, who represent a modern extension of paratextual industries. Boldi and Rapp [9], instead, observe that streamers may directly influence a game community standard about "illicit behaviors" – that are actions perceived as unfair or against community norms, including but not limited to technical manipulations of the game labeled as "cheating": they may provide an informal system to recognize unfair players, compensating the perceived insufficiencies of formal anti-cheat technologies [18]. However, the reliance on streamers to define and enforce norms introduces a range of biases and conflicts of interest: for instance, streamers might accuse others of cheating to deflect from their own failures [9].

These previous works highlight that streamers may play a role in determining how players perceive and understand the cheating practices. However, although previous research has pointed to their relevance, the wider implications of the streamers' emerging role on the cheating phenomenon are far from clear. In particular, it seems that a more in-depth understanding of the context in which cheating occurs is needed to grasp this streamers' role and the reasons why they may influence cheating practices.

To understand how streamers may shape norms and perceptions of cheating, in this study we adopt the theoretical lens of moral entrepreneurship [12], which directly addresses the process of norm creation, enforcement, and contestation. The theory emphasizes that deviance is socially constructed through the creation and enforcement of rules by "moral entrepreneurs": these actors define behaviors as deviant based on their values, enforcing societal norms. Applying this lens to cheating allows us not only to examine how streamers construct cheating as deviance and influence community standards around acceptable and deviant behaviors, but also how such reliance on popular figures fills gaps left by a fragmented regulatory system.

2.3. Cheating regulations in esports

From a regulatory perspective, cheating in esports presents significant challenges due to the growing sophistication of cheating methods and the fragmentation of the regulatory system. While there have been several attempts to create robust anti-cheating frameworks, existing guidelines are often outdated in the face of rapidly advancing cheat technologies. In fact, the evolution of cheating software complicates regulatory efforts, as even players often fail to recognize when cheating is

occurring [9]. For instance, the Esports Integrity Commission [19] aims to address these issues by establishing unified standards across esports tournaments and relevant stakeholders, yet their enforcement efforts are challenged by technological adaptation and a lack of comprehensive industry alignment. As recently reported by the International Esports Federation (IESF), accusations of rule violations during the DOTA 2 South America Regionals were dismissed without proper investigation [20]. Such dismissals reveal gaps in regulatory practices, as insufficient investigation procedures undermine fair play enforcement.

Several scholars have examined why efforts to regulate cheating behaviors often fall short. Schöber and Stadtmann [21] claimed that private interests and substantial financial incentives play a crucial role in undermining fair play: players may turn to cheating to boost their performance and secure a share of the lucrative prize pools - which can reach millions of dollars in high-profile tournaments; teams and sponsors also have an interest in the outcomes, as winning boosts visibility and enhances merchandising opportunities; finally, external parties, such as betting syndicates, might exploit esports by orchestrating match-fixing schemes for financial gain. These overlapping financial interests complicate efforts to regulate cheating, especially due to the lack of centralized governing entity models [22].

The limitations of existing regulatory bodies would stem from structural gaps in the regulatory landscape, stressing the need for a unified regulatory framework akin to traditional sports governance models [23]. Echoing this need, Richardson [24] notes the absence of unified frameworks in esports and suggests aligning esports regulations with World Anti-Doping Agency (WADA) standards to foster a "clean" esports environment. He also proposed data-sharing initiatives, which include implementing stricter digital controls on players, tracking their competitive history, biometric data, and compiling records of cheating behaviors and digital doping rule violations (DDRVs). However, given this regulatory vacuum, there is a pressing need to understand how rules and regulations are enacted and enforced in specific gaming environments. Since in the current situation regulations remain localized to the players' home countries, it becomes paramount to understand the rules that are enforced locally. This, in turn, may clarify the reasons why streamers are gaining prominence in cheating phenomena.

3. Methods

The study employs a digital ethnographic approach to explore the social dynamics within the Italian gaming community of *Call of Duty: Warzone*, focusing on the conditions that enable streamers to assume a normative role in regulating behavior and the broader impact of these informal normative practices. Ethnography is an ideal choice for this investigation due to its flexibility in capturing the nuances of online interactions and for providing an in-depth account of the social contexts observed. This methodological framework encompasses participant and non-participant observations, informal conversations with players and interviews.

3.1. Digital ethnography

The setting of this digital ethnography is the game *Call of Duty: Warzone*, a popular battle royale game developed by Infinity Ward and released in March 2020. The game, notable for its fast-paced, competitive gameplay, quickly became a pivotal part of online gaming culture, drawing millions of players worldwide, from casual gamers to professional esports competitors [25]. This setting was chosen not only for its popularity but also for its social dynamics, which reflect the evolution of contemporary multiplayer games. Players can form alliances within regiments, develop team strategies, and engage in discussions within an ecosystem that extends into various online spaces.

The game's focus on competition and performance is strengthened by some key design features, including kill-death (K/D) ratios and performance statistics showcasing players' competence. This multifaceted, extremely competitive, social environment serves as an ideal context for studying how normative roles emerge and with what consequences. The ethnographic approach was guided

by flexibility in access strategies, adjusting between overt and covert observations depending on the context of investigation. For openly accessible spaces like Twitch and YouTube channels, observation was covert, and the ethnographer did not disclose her identity, while in more private spaces like Facebook and WhatsApp groups or Discord servers - where entry required approval by moderators, identity disclosure to administrators was used to ensure ethical compliance. As a matter of fact, the *Call of Duty: Warzone* community exhibits characteristics of what Kozinets [26] calls "consociations," where interactions are organized around shared interests rather than long-term commitments to a stable community identity.

Study participants involved in formal interviews were identified leveraging the researcher's network and knowledge of the gaming community developed during the fieldwork. Participants were recruited using a combination of purposeful and snowball sampling. The purposeful sampling criteria included: (i) representation of diverse roles within the community (e.g., casual players, esports players, stakeholders), and (ii) for casual players at least one year of play in the game without participation in tournaments, while for esports players at least two years of playing and participation in esports tournaments. Snowball sampling was then employed to broaden the participant base. The selection of the streamers was guided by specific criteria: (i) streaming content that consistently engaged with topics related to cheating, fair play, and gaming ethics, and (ii) relevance in the community highlighted by key informants encountered during the fieldwork.

3.2. Data collection

The data collection for this study took place in two main phases, from May 2021 to January 2023 and from September 2023 to April 2024. This time frame was selected to capture the ongoing evolution of *Call of Duty: Warzone* as a dynamic platform, allowing for the observation of seasonal variations, game updates, community shifts, and, importantly, the evolving nature of cheating and anti-cheating measures. Such changes included the introduction of new anti-cheating technologies, developments in regulatory frameworks, and shifting community responses to cheating behaviors. Throughout both phases, the researcher maintained an ethnographic diary to document daily observations, personal reflections, and emerging insights. This diary served as a crucial tool for recording informal interactions, contextualizing player dynamics, and refining research questions throughout the study.

During the first phase, the research centered on virtual settings within the Warzone community, where observations provided valuable insights into community norms, social interactions among players, and the dynamics of rule enforcement as players adapted to both formal and informal regulations. The ethnographer joined Facebook and WhatsApp groups of players, Discord servers, and followed the game content communities. She focused on streamers' Twitch and YouTube channels, as well as content produced by creators on social media. Although streamers and content creators are largely overlapping figures, we maintain this distinction because we have observed differences in the practices of the Italian community. Streamers mainly broadcast live content on Twitch and YouTube, while content creators distribute offline content across social media platforms (e.g., Instagram).

The ethnographer also accessed a "Regiment", a private organized group of players counting 128 members forming a sub-community with simple rules and hierarchy. She played actively, recording approximately 98 hours of gameplay, adopting an autoethnographic approach to gain direct insight into in-game interactions and team dynamics. Informal conversations with players were integral to this phase, as these exchanges revealed player perspectives on key topics, such as anti-cheating sentiments and opinions, norms, and understanding of cheating software circulating within the community.

Table 1
List of participants.

ID	Age	Gender	Education	Role
P01	23	M	High school diploma	Casual player
P02	32	F	High school diploma	Casual player
P03	40	M	High school diploma	Casual player
P04	24	F	Middle school	Casual player
P05	30	M	High school diploma	Esports coach
P06	29	M	High school diploma	Manager in an esports team
P07	28	M	High school diploma	Founder of esports team
P08	24	F	High school diploma	Esports amateur player/streamer
P09	32	M	Bachelor's degree	Esports amateur player/admin of an esports team
P10	36	M	Bachelor's degree	Member of an esports federation
P11	37	M	Master's degree	Esports lawyer
P12	26	M	High school diploma	Streamer
P13	24	M	High school diploma	Streamer

In the second phase, the ethnographer adopted a more immersive, on-site approach, joining an amateur esports team registered with FIDE (The Italian Federation of Electronic Disciplines), thus gaining direct access to the organizational dynamics and inner workings of a competitive *Call of Duty: Warzone* team. This involvement included active participation in team discussions, strategic planning sessions, and preparation for competitions. The researcher actively participated in a gaming fair, where she could observe from within the organization of events, tournaments, and live-streamed content hosted by three esports teams present at the fair. Additionally, interactions with key figures in regulatory bodies added institutional perspectives on emerging regulatory considerations and enforcement practices. Table 1 summarizes the list of participants.

3.3. Data analysis

The data analysis process began with the review of field notes, conversations, interviews, and observations recorded throughout the study, allowing patterns to emerge directly from the data. The researcher's daily ethnographic diary played a central role in this process, serving as an analytical tool for capturing reflections and insights immediately following observations, both online and on-site. The diary was reviewed regularly during the ethnography to identify emerging themes and potential research questions, allowing the ethnographer to start identifying patterns across the data as fieldwork progressed. These informal phases of data analysis were alternated with more formal phases involving thematic analysis of all the data collected hitherto and the development of open and axial codes [27].

This iterative approach was instrumental in the development of preliminary hypotheses that guided subsequent areas of observation. Moreover, the researcher periodically engaged the community to validate interpretations, following a "participant researcher" strategy [28]. For instance, questions were posed within the Regiment's WhatsApp group to gain feedback on researchers' hypotheses and interpretations, allowing community members to provide input to shape the evolving analysis. This validation process was further enhanced by consulting a core group of players for in-depth and ongoing discussions, ensuring researchers' understanding of the phenomenon closely aligned with participants' perspectives. Through these iterative rounds of analysis, the themes were refined and also used to guide the ethnographer's interactions with the community members. After each fieldwork phase, key insights and patterns identified in the diary were reviewed with the second author, who brought an external perspective that helped to mitigate potential biases stemming from the ethnographer's immersive role. These discussions allowed for critical interrogation of hypotheses and helped to refine the identified themes.

4. Findings

The following section presents the key findings of the study, organized into three main themes. The first relates to RQ1 and highlights the mentorship role that streamers play in Warzone, which grants them the authority of judging cheating practices. The second points to RQ2 describing the fragmented regulatory landscape in Warzone, which further strengthens their influence in shaping the players' perceptions of cheating. The third refers to RQ3 and examines how streamers' power in addressing issues of fair play may produce drawbacks on players. Table 2 summarizes the findings.

Table 2
Summary of the main findings

Theme	Key findings
Learning and informal mentorship	- Playing Warzone entails constant learning - Regiments may facilitate learning but may not be sufficient - Streamers may become informal educators gaining authority in the gaming community
A world without "rules"	- Warzone's scene lacks a unified regulatory framework - Amateur esports teams often operate without formal oversight - The absence of a unified regulatory structure encourages streamers to become "rulers"
Streamers as regulators of conduct	- Streamers may accuse who is suspected to cheat - Streamers' authority can result in inconsistencies, and their search for sensationalism may lead to harm players

4.1. Learning and informal mentorship

Warzone's player base experienced significant growth during the COVID-19 pandemic, drawing both long-time FPS enthusiasts and novices. Experienced casual players could draw years of practice in similar games, allowing them to adapt to Warzone's Battle Royale mode, which introduced unique challenges such as navigating extensive maps and requiring rapid strategic decisions. By contrast, novices often struggle to master these mechanics. Additionally, frequent updates continuously introduced new game elements into gameplay, pushing players to stay informed and regularly refine their skills, strategies, and tactics as the game evolved, making

learning an ongoing process. This learning process was also fundamental to making players transition from the world of casual gaming to that of amateur esports. However, cheating contributed to shaping an even more unstable environment, where cheating behaviors were increasingly difficult to recognize, given the continuous introductions of new cheats: this heightened frustration for players who were still learning and seeking to discern which actions were considered licit and which were not within the game.

Many players turned to Regiments, a type of clan system that groups players with regular interactions both within and outside of gaming sessions—as a source of learning support. Regiments could provide informal mentorship from more experienced players, helping newcomers to understand the game's complexities. For instance, P01 said: "*I mainly learned by playing with the people in the Regiment with whom I initially befriended; they really explained everything to me in detail. I also had some training sessions… not too many, though. Let's say that, at the beginning, people were very willing to teach me*." However, this support was not without limitations: while Regiments provided a pathway from solitary play to more cohesive and stable group experiences, they also displayed a notably fluid structure with loose boundaries. Players frequently joined or left Regiments due to shifting interests or changing friendships. This transient nature, while offering flexibility, sometimes hindered the continuity of support for newcomers. By contrast, esports players could rely on coaches, more or less professionalized figures, which could provide more stable support. However, this resource was often unavailable even for amateur esports players, as the organizations they belonged to were unable to sustain the economic effort required for continuous support. Alongside these forms of guidance, many players turned to online resources, such as streamers and social media content, to supplement their learning. In fact, streamers and content creators (i.e., "influencers" posting on social media like YouTube) played a pivotal role in providing guidance, especially to casual players. Acting as informal educators, they became essential resources for players seeking to improve their skills within the boundaries of fair play.

P04, for instance, highlighted the value of learning strategies and techniques by watching YouTube and Twitch: "*I watch live streams on Twitch and Facebook of famous streamers... there are also so many ways to learn and improve. Like, when you die in the game, it's a good idea to watch the kill cam. Many streamers recommend it—they say, 'Guys, when you die, watch how you died, understand what you did wrong, so you don't make the same mistake again*.'" The reliance on these digital influencers represents a marked shift from previous gaming eras, where learning was largely an individual pursuit or an activity shared only within small groups of companions, as many players noticed. This ready access to expertise accelerated the learning process, significantly shaping gameplay practices and granting streamers and content creators considerable authority over key aspects of play. For instance, P02 highlighted that "*just watching them teaches you a lot about the game. And especially if you go on YouTube, many of them post videos where they give tips and advice. So, if you don't want to be a burden, so to speak, to friends who've been playing for years, you can easily go on YouTube or watch Twitch streams. You can learn a ton this way. I started following* [streamer 1] *and* [streamer 2], *and everything around them… that's where I picked up other things too, like how to move, what you should do, and what you shouldn't do*." Through their content, these figures could thus even impose informal "norms" on the community—for instance, dictating preferred weapon builds, and movement techniques. This process effectively "standardized" certain play styles, creating a model of the "good player" for both casual and esports players to follow, which in turn gave streamers the "license" to assess and judge those players supposedly behaving correctly and those resorting to cheating.

4.2. A world without "rules"

To understand the emergence of streamers as informal regulators, dictating rules to both casual and esports players, it is crucial to also consider the competitive landscape surrounding Warzone, which only recently entered the esports scene, thus lacking an established regulatory framework

and, occasionally, even informal guidelines. It is precisely in this setting, characterized by loose oversight and unclear rules, that proxy figures managed to assume de facto regulatory roles.

As reported by P11, who has been working as a lawyer in the esports sector in the last 7 years, the Italian regulatory landscape is heavily fragmented. Only a fraction of teams participates in officially recognized amateur esports associations (ASDs) registered with gaming federations on the national territory. As P07 described, the founder of an amateur esports organization, these associations frame esports teams within certain organizational standards, requiring formal registration and offering internal statutes and a clear hierarchical structure to ensure stability and give players a more protected environment. Moreover, their members benefit from an identification system and insurance coverage during esports events, formally linking them to their teams and establishing some accountability.

However, the majority of amateur esports players in Italy operate outside this framework, playing in loosely organized groups that lack formal affiliation with similar organizations. These groups, often originally formed casually, and only later transitioned into esports gaming, allow players to join or leave freely, making it easy to create new teams without regulatory requirements. Moreover, players in such groups do not benefit from the protection and oversight offered by structured ASDs and are not bound by contracts or codes of conduct specific to cheating. This unregulated population of players operates with limited accountability, participating in the competitive space without official oversight.

Tournament organization further highlights this gap in regulation. As reported by P10, working in the direction of an esports federation, referees are present during federated tournaments to oversee the competition, investigate cheating allegations, and ensure fair play. These referees have the ability to request a player's computer access to rule out any suspicious behavior. By contrast, in non-federated tournaments, as noted by P09, organizers shoulder the responsibility of managing player conduct and responding to suspicions of cheating. Here, accusations are typically handled through ad-hoc processes, such as cross-referencing player footage (Video on Demand), which relies heavily on the organizer's experience and discretion. However, as he reported: "*Many people start esports teams without real competitive experience… When they then face a cheating accusation, they don't know how to proceed… some, to avoid looking bad, immediately accept the accusations and suspend the player, even if there isn't sufficient evidence.*" This lack of standardized procedures leaves considerable room for interpretation, further reinforcing the need for figures like streamers to step in as informal regulators.

In summary, the need for guidance, which is only partially fulfilled by regiments and coaches, and the fragmented regulatory landscape have created an environment where official oversight is inconsistent, and rules are unclear. The absence of a unified regulatory structure and learning sources encourages influential streamers to take on regulatory responsibilities, using their expertise and visibility to enforce community norms for both casual and amateur esports players. This dynamic, while filling a critical regulatory gap, introduces variability in rule enforcement and centralizes significant power in a few individuals.

4.3. Streamers as regulators of conduct

While streamers' mentorship may provide a supplementary source for learning, they may also help manage the problem of cheating. In fact, players varied considerably in their understanding of what constituted cheating, offering diverse perspectives and revealing uneven detection skills. For instance, casual players were mostly unable to confirm whether they had actually encountered a cheater in their gameplay sessions, compared to amateur esports players. The absence of widely recognized regulations further deprives players of a means to recognize what is permissible and what is not within the game.

As the line between skill and unfair advantage became increasingly blurred, players began to rely on content creators and streamers. These figures took on an informal regulatory role, using their expertise to define "optimal" behaviors and communicate these standards to the community.

When accusations of cheating arise, they are often the first to weigh in, either validating or challenging specific actions. Cheating is viewed as particularly serious when involving esports players, and online content produced by streamers and creators has predominantly focused on this player group, with multiple high-profile cases exposing esports players for using hacks during tournaments.

In this way, streamers and content creators become key stakeholders in shaping the community's interpretation and enforcing norms about cheating. This policing role, in turn, amplifies their influence, as their judgments—backed by their social standing—can be difficult to contest and may enhance their reputation as "judges of fair play". However, their authority remains informal and sometimes may lead to inconsistencies in enforcement and unsubstantiated accusations.

The following vignette, based on a real case reported by an online gaming magazine [29], illustrates how such dynamics can unfold: "*In a 2023 amateur esports tournament, a player associated with a recognized amateur team faced public accusations of cheating from a well-known streamer with a large following user base. During a live analysis of the player's match, the streamer concluded that the player's precise positioning and accuracy were indicative of wallhacking—an accusation that carries significant weight within the Warzone community. In response, the accused player and his team undertook exhaustive measures to disprove the accusation. They enlisted a third-party official from the Italian Federation of Electronic Sports to conduct an independent assessment of the player's computer. Later, the player attended a LAN event to publicly demonstrate his skills in a controlled environment. Nevertheless, the 'hackusation' culture surrounding the incident had already created lasting doubt on his reputation, with the streamer ultimately declining to retract his allegations.*" As reported by those directly involved in the incident, the tournament organizers faced significant social pressure and ultimately decided to suspend the player during the investigation. According to the player's manager, "*with no standardized procedures to follow, we felt compelled to act quickly.*"

This case highlights the complex interplay among different stakeholders involved in the incident. Players and tournament organizers, when reflecting on the events, expressed concerns about how the situation unfolded. Formal bodies, despite their capacity to conduct detailed technical assessments, were limited by their lack of jurisdiction in non-affiliated events, which hindered their ability to enforce decisions effectively. In the absence of a unified regulatory framework, tournament organizers—typically responsible for ensuring fair play—found themselves under immense public pressure, forcing them to act quickly. On the other hand, streamers, leveraging their influence, shifted the burden of disproving accusations to players and teams. However, according to the interviewees, the streamers' attempt to engage the audience may encourage sensationalism, driving streamers to prioritize entertainment and visibility over impartiality. This dynamic not only risks inconsistent enforcement of community standards but also has the potential to inflict lasting reputational damage on those who are accused.

5. Discussion

These study findings make a substantial contribution by showing how streamers and content creators play a central role in cheating phenomena, by showing players how to play and guiding them in recognizing cheating behaviors (RQ1). Their authority arises from the lack of reliable learning resources and unified regulatory structures (RQ2), but such an authority may lead to arbitrary judgments and produce negative effects on players (RQ3).

In the following, we use Becker's [12] theory of moral entrepreneurship, to offer a nuanced understanding of their role, illustrating how they construct deviance, enforce norms, and influence power dynamics within the Warzone community. While previous research has tangentially highlighted that streamers may be recognized as "game experts" [11] able to best recognize who is a cheater and who is not in a game [9], our study offers a more detailed exploration of their role, unveiling the factors that position streamers as key regulators in the community.

5.1. Streamers as moral entrepreneurs

Becker [12] emphasizes that deviance is socially constructed through the creation and enforcement of rules by "moral entrepreneurs". Streamers exemplify this role by defining what constitutes acceptable behavior and labeling certain practices as deviant. Their visibility on digital platforms allows them to propagate their own interpretation of fairness to the community, significantly shaping the perception of cheating. This positions them as pivotal actors within the socio-technical dynamics of the gaming ecosystem, where norms are negotiated among different stakeholders.

Streamers' authority can be understood through Weber's concept of charismatic authority [30], where individuals derive power from the perception of their extraordinary qualities and expertise. In the context of Warzone, streamers are believed to possess unique knowledge and skills, which grants them a form of legitimacy in guiding the community. Their power comes from the guidance that they may provide to players in search of a point of reference, whereby both informal and formal figures supporting the game learning process can be insufficient. In Warzone, on the one hand, peer support within the regiments is clearly lacking, as these organizations are extremely fluid and often there are no stable figures that may give continuous mentorship to newcomers. On the other hand, coaches are precious resources, which, nonetheless, are available only to players within formal and well-funded esports organizations, whereas many amateur esports players are left alone in acquiring the playing practices and recognizing cheating behaviors. This lack of consistent mentorship creates a vacuum that streamers and content creators fill.

Their charisma is amplified by digital platforms, used as a stage to expose their expertise, connect with the community, and gain followers that may recognize them as legitimate authorities. By offering tutorials, advice, and examples of optimal gameplay – i.e., how the game should be played, they establish themselves as informal mentors, gaining reputation and influence. This in turn also grants them moral authority to determine what is "good" and "bad" in relation to players' actions.

5.2. Streamers and moral crusades

Streamers also engage in what Becker [12] terms "moral crusades" by using their channels to mobilize their audiences against behaviors that they define as deviant. They disseminate content, such as live streams, tutorials, and commentary that explicitly highlights what constitutes "acceptable" and "unacceptable" behavior. Furthermore, they call out perceived cheaters during live gameplay, labeling them as cheaters in front of their audience. This practice does not only address immediate concerns and doubts about the fairness of certain players but also establishes and reinforces long-term community standards of fairness.

As Becker notes, moral crusades emerge in contexts where formal regulations are insufficient or even absent. In the case of Warzone, streamers' authority to conduct such crusades is strengthened by the fragmented ground on which the esports community is built. Streamers seep into the cracks left by the absence of uniform and widely recognized regulations that may bind players to codes of conduct that provide guidelines for fair judgment in cases of unlawful behavior. Previous research highlights that the presence of unclear rules is not only a matter of the Italian context, where this study has been conducted, and that the lack of centralized governing entity models may favor the proliferation of cheating behaviors [20, 21].

However, reliance on streamers introduces significant challenges, including inconsistencies and biases. Streamers' interpretations of deviance are shaped by their personal perspectives and the incentives of their platforms, such as maintaining audience engagement and visibility. This dynamic aligns with Weber's observation that charismatic authority has an inherently unstable nature [30]. Streamers who wield this power must continuously adopt strategies to sustain their influence; however, this need for attention and validation may compromise impartiality in their judgments, often prioritizing sensational content over fairness. This can lead to unfounded accusations and reputational harm to players who may lack the means to defend themselves. For instance, the public exposure of alleged cheaters during live streams can foster a culture of

suspicion and mistrust, ultimately escalating conflicts within the community instead of promoting cohesion. Consequently, our study emphasizes that unstructured regulations may enable the rise of proxy figures who, rather than resolving the cheating problem, may exacerbate it.

5.3. Power dynamics and contribution to theory and practice

This study addresses a significant gap in the literature, as little attention has been paid to the role of streamers as part of the "paratextual industries" [15] that shape gaming cultures and perceptions of deviance. We found that streamers assume a policing function which may distort the power dynamics within a certain gaming community. Their judgments carry significant weight and are difficult to contest for players who do not have the same visibility and supposed authority, given the streamers' social standing within the gaming community [31]. This power asymmetry risks leading to abuses of power, where players may not have the means to respond to the streamers' accusations and may feel compelled to monitor and report behaviors in a climate of mutual suspicion. This climate, in turn, may exacerbate conflicts within the game community, adding the issue of abusive behavior to that of unlawful conduct.

The application of Becker's [12] theory to digital games allows us to identify streamers as a novel category of moral entrepreneurs whose authority is rooted in their visibility rather than institutional power. Becker's observation that the actions of moral entrepreneurs can have unintended consequences - such as stigmatization and power imbalance, aligns with our findings. While streamers fill a regulatory vacuum, their informal power can foster an environment of mistrust. By constantly exposing alleged cheaters, streamers encourage their audiences to adopt similar vigilance towards other players. This dynamic reflects the dual-edged nature of moral entrepreneurship, which risks perpetuating biases and conflicts while addressing existing gaps in the formal regulation.

To mitigate the risks of streamers' informal authority, a dual approach is essential. Multiplayer platforms should implement standards for those in policing roles, requiring evidence to support accusations and enforcing consequences for unfounded claims. This would enhance accountability and reduce the harm caused by arbitrary judgments. Moreover, in the esports community, the introduction of a unified regulatory framework is crucial. This framework should establish clear anti-cheating policies and provide transparent methods for resolving conflicts during tournaments. Together, these measures can reduce reliance on informal regulators, promote fairness, and build trust within gaming environments.

Finally, these findings highlight that to study social phenomena like cheating, it is no longer sufficient to focus on players alone. Such phenomena are the byproduct of complex interactions between different social actors, like players, streamers, content producers, tournament organizers, associations and public regulators. This study, therefore, stresses the need to adopt a wider lens to explore this kind of phenomenon, considering the whole ecosystem of a game.

5.4. Limitations and future research

This study has limitations. Focusing on the Italian community might limit the generalizability of the findings, as players located in different world regions could experience the cheating phenomenon differently. Nonetheless, we pointed out that to fully understand such a complex phenomenon characterized by a fragmented regulatory landscape it is necessary to explore in-depth local communities and investigate the local norms enforced there. Furthermore, as we studied only the game community of Warzone, the study findings may not be applicable to other online games. Future research on this topic could benefit from integrating mixed-methods approaches to complement the current ethnographic insights by capturing broader patterns in players' attitudes, perceptions, and experiences. For instance, it would be valuable to investigate how players in different gaming ecosystems perceive streamers as authoritative figures in regulating cheating practices, and how prevalent this reliance is across different types of players.

Such an approach would provide a comprehensive understanding of how cheating manifests and is addressed in various games.

6. Conclusion

In this paper, we presented the findings from digital ethnography in Call of Duty: Warzone focusing on the emergent role that streamers play in shaping the cheating phenomenon. We discovered that, first, both casual and amateur esports players lack support in learning the game, which leaves room for streamers and content creators to provide guidelines for optimal ways of behaving. Second, the lack of widely recognized regulations and norms enforcing fair play delegates the task of judging players' behavior to streamers' authority. Third, such an authority may produce power asymmetries within the gaming community, potentially worsening the gaming climate. In this sense, we offer a detailed understanding of the reasons why cheating is not only a matter of players but involves the wider ecosystem of the game. While this study focuses on a specific community, the insights gained provide foundations for future research in other games, which could explore how different game designs, community structures, and competitive dynamics influence the emergence of informal regulatory roles, contributing to a broader understanding of cheating as a socio-technical phenomenon.

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