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and Professionalism in Online Gaming**

Tesi presentata da **Arianna Boldi**

Tutor: Maurizio Tirassa, Amon Rapp

Coordinatore del Dottorato: Marco Tamietto

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Dedico questo lavoro all'amore.

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## Methodological Considerations and Language Choices

This doctoral thesis is presented in English, a decision influenced by several key factors. Primarily, a part of the data was originally collected in English, necessitating a cohesive linguistic approach for analysis and discussion. The choice also aligns with the inherent linguistic nature of the video game domain, where English serves as the primary medium of communication and many terms are intrinsically untranslatable. Commonly, Italian speakers incorporate English terms in gaming contexts, underscoring the necessity of maintaining English for certain terminologies and expressions.

Considering the qualitative nature of this analysis, where language is crucial, there are inherent limitations to this choice, particularly regarding the non-neutrality of translating player interactions into English. Unlike the good practices of Conversation Analysis (CA) and Discourse Analysis (DA) literature, which include both the original Italian language of the participants and its English translation, I decided to use only the English version to enhance the privacy of the participants. While this approach may lead to losing the “emic quality” of the qualitative data (Esposito, 2001), it is recommended by scholars when data is collected via social media (Zhang et al., 2024), where identification can easily occur. Given the variety of sources utilized in this study, including social media and gaming sessions broadcasted and uploaded online by players, participants’ privacy was at risk. This risk is particularly significant for eSports players, who form a small niche within the community; a player could be easily identified through their specific use of language, dialect, or other unique expressions. Therefore, I opted for a consistent approach across all data, including social media data, conversations, and interview transcripts. The English translation allows for protecting the anonymity and confidentiality of the participants while still conveying the essential content of their interactions.

In addressing the qualitative nature of this analysis, where language plays a crucial role, there are inherent limitations to this choice. To ensure accuracy and consistency in translation from Italian, I initially collaborated with an English language teacher well-versed in Italian, whose expertise was instrumental in faithfully conveying the nuances of the Italian interviewees’ expressions and in refining the overall text for clarity in an English-

speaking academic context. Then, since English is not my first language, to guarantee grammatical correctness and ensure that my writing was clear and as error-free as possible, I utilized a large language model (LLM) to help identify and correct errors, or to assist in clarifying my sentences. The prompt I used most frequently was: *“Please read this text, which was designed for an academic audience, and identify potential grammatical and syntax errors. Where you find errors, please highlight them, explain why they are considered mistakes, and suggest alternatives to improve the text.”* This approach allowed me to receive support while maintaining control over the proposed corrections, as I asked the LLM to make its decisions continuously accountable. Then, I could intervene whenever a sentence was misinterpreted.

Regarding the empirical documentation within the text, interview excerpts underwent minimal editing to enhance readability. Repetitions and superfluous linguistic connectors were removed unless they added clarity to the participants’ narratives. However, to stay true to the interviewees’ expressive styles, no semantic or grammatical cleansing was performed, preserving even colloquial expressions and grammatical inaccuracies. Overall, the thesis occasionally employs edits and ellipses, indicated by “(...)”, to streamline participant dialogues, while pauses in speech are simply denoted by suspension points “...”. This approach reflects a commitment to accurately representing the participants’ voices and experiences within the constraints of the academic style.

## List of Publications

During these years I explored various topics related to games and video games, with particular regard to the psychological literature on the value of players' experiences and the potential impact of video games on mental health and individuals' well-being. Furthermore, I have extensively explored Human-Computer Interaction literature, and studied video games from the point of view of the design to better understand the dynamics that unfold within video games and their effects on individuals.

In order to delve deeper and gain a better understanding of the fundamental principles of this discipline, I have dedicated these four years to thoroughly examining the literature and I undertook projects which, despite apparently being distant from the central theme of this thesis, expanded my knowledge on the fundamental theories developed by HCI scholars and enhanced my understanding on the interaction between individuals and technology.

I have explored the themes of personal informatics, technologies for behavior change, and interaction with conversational agents. All the 15 publications resulting from these endeavors, presented in conference proceedings, book chapters, and international journals, are listed below.

## INTERNATIONAL JOURNALS

- [1] Rapp, A., Curti, L., & **Boldi, A.** (2021). The human side of human-chatbot interaction: A systematic literature review of ten years of research on text-based chatbots. *International Journal of Human-Computer Studies*, 151, 102630. <https://doi.org/10.1016/j.ijhcs.2021.102630>
- [2] **Boldi, A.**, & Rapp, A. (2022). Commercial video games as a resource for mental health: A systematic literature review. *Behaviour & Information Technology*, 1-37. <https://doi.org/10.1080/0144929X.2021.1943524>
- [3] **Boldi, A.**, Rapp, A., & Tirassa, M. (2022). Playing during a crisis: The impact of commercial video games on the reconfiguration of people's life during the COVID-19 pandemic. *Human-Computer Interaction*, 1-42. <https://doi.org/10.1080/07370024.2022.2050725>
- [4] **Boldi, A.**, Rapp, A. (2023). Making sense of the pandemic: Multiple functions of commercial video games during one year and a half of COVID-19 crisis. *International Journal of Human-Computer Studies*, Volume 180, 103141. <https://doi.org/10.1016/j.ijhcs.2023.103141>
- [5] Rapp, A., and **Boldi, A.** (2023). Exploring the Lived Experience of Behavior Change Technologies: Towards an Existential Model of Behavior Change for HCI. *ACM Transaction in Human-Computer Interaction*. <http://dx.doi.org/10.1145/3603497>
- [6] **Boldi, A.**, and Rapp, A. (2023). "Is It Legit, To You?". An Exploration of Players' Perceptions of Cheating in a Multiplayer Video Game: Making Sense of Uncertainty. *International Journal of Human-Computer Interaction*, 1-21. <https://doi.org/10.1080/10447318.2023.2204276>
- [7] Rapp, A., **Boldi, A.**, Curti, L., Perrucci, A., Simeoni, R. (2023, early access). How Do People Ascribe Humanness to Chatbots? An Analysis of Real-World Human-Agent Interactions and a Theoretical Model of Humanness, *International Journal of Human-Computer Interaction*. <https://doi.org/10.1080/10447318.2023.2247596>
- [8] **Boldi, A.**, Silacci, A., Boldi, M-O., Cherubini, M., Caon, M., Zufferey, N., Huguenin, K., and Rapp, A. (2023). Exploring the Impact of Commercial Wearable Activity Trackers on Body Awareness and Body Representations: A Mixed-Methods Study on Self-tracking. *Computers in Human Behavior*, 151, 108036. <https://doi.org/10.1016/j.chb.2023.108036>

## CHAPTERS IN EDITED BOOKS

[1] **Boldi, A.**, & Rapp, A. (2022). Quantifying the Body: Body Image, Body Awareness and Self-Tracking Technologies. In K. Wac, S. Wulfovich (Eds.), *Quantifying Quality of Life. Incorporating Daily Life into Medicine, Health Informatics*, (pp. 189-207). Springer, Cham. [https://doi.org/10.1007/978-3-030-94212-0\\_9](https://doi.org/10.1007/978-3-030-94212-0_9)

[2] **Boldi, A.**, Tirassa, M., & Rapp, A. (2023). Playing as the World Falls Apart: The Use of Video Games During the COVID-19 Crisis. The Case of Italy. In P. Siuda, J. Majewski, & K. Chmielewski. *Gaming and Gamers in Times of Pandemic*. Bloomsbury Academic Press

## PROCEEDINGS OF INTERNATIONAL CONFERENCES

[1] Rapp, A., Cena, F., Mattutino, C., Schifanella, C., Mauro, N., Ardissono, L., Boella, G., Brighenti, S., Castaldo, R., Keller, R., **Boldi, A.**, Tirassa, M. (2020). How can we engage people to map places suitable for the autistic population? A crowdsourced approach. *Psychobit: Second Symposium on Psychology-Based Technologies. CEUR Workshop Proceedings*, vol. 2730, 6 pages. ISSN: 1613-0073.

[2] **Boldi, A.** (2022). About the Blurring of Work and Play: Organizational Dynamics Emerging in a First-Person Shooter Videogame. In *Companion Publication of the 2022 Conference on Computer Supported Cooperative Work and Social Computing* (pp. 237-240). <https://doi.org/10.1145/3500868.3561398>

[3] **Boldi, A.** (2022). “Come on, Guys, Let's Stick Together!”: Organizational Dynamics Emerging among Players in a First-Person Shooter Video Game. In *Extended Abstracts of the 2022 Annual Symposium on Computer-Human Interaction in Play* (pp. 374-377). <https://doi.org/10.1145/3505270.3558366>

[4] **Boldi, A.**, Rapp, A., & Tirassa, M. (2022). Professionals, Streamers and Amateur Players: An Ethnography for Exploring Organizational Behaviours in Different Work-Play Conditions. In *Proceedings of the International Psychological Applications Conference and Trends (InPACT2022)*. <https://doi.org/10.36315/2022inpact093>

[5] Rapp, A., **Boldi, A.**, Curti, L., Perrucci, A., & Simeoni, R. (2023). Collaborating with a Text-Based Chatbot: An Exploration of Real-World Collaboration Strategies Enacted during

Human-Chatbot Interactions. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-17). <https://doi.org/10.1145/3544548.3580995>

[5] **Boldi, A.**, Cho, S., Kou, Y., Rapp, A., & Birk, M. V. (2023, October). Methodological Challenges, Risks, and Ethical Implications in Game Research. In *Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (pp. 350-351). <https://doi.org/10.1145/3573382.3616026>

## INTERNATIONAL AND NATIONAL WORKSHOPS

**Creator, co-organizer, and Program co-chair.** *Methodological Challenges, Risks, and Ethical Implications in Game Research*. At CHI PLAY 2023, The Annual Symposium on Computer-Human Interaction in Play (CHI PLAY) (10-13 October 2023, Stratford, Canada).

**Co-organizer of the international workshop and Track Chair.** *AcaDev: Workshop on Academic Game Development (AcadDev)*. At FDG 2023, The 18<sup>th</sup> Foundations of Digital Games (11-14 April 2023, Lisbon, Portugal). <https://gameresearch.leiden.edu/events/fdg23-workshop/>

**Program Committee member.** *BehavRec: International Workshop on Behavior Change and Persuasive Recommender Systems*. At ACM RecSys 2023, The 17th ACM Recommender Systems Conference (18 - 22 September 2023, Singapore). <https://behavrec.wordpress.com>

**Program Committee member.** *GENERAL23 (GENERAL: GENERative, Explainable and Reasonable Artificial Learning WorkShop 2023)*. At CHITALY 2023, Crossing HCI and AI (20-22 September 2023, Turin, Italy). <https://www.evilscrip.tu/eu/general/>

## ABSTRACTS IN NATIONAL AND INTERNATIONAL CONFERENCE PROCEEDINGS (PEER REVIEWED)

[1] Bianco Prevot, **A.**, **Boldi, A.**, Brizio, A., Acquadro Maran, D., Repetto, M. (2023). Escape To Learn: efficacia delle escape room digitali sull'educazione ambientale. Il ruolo delle differenze di genere. XIV National Congress S.I.P.C.O "Immaginare comunità eque, promuovere cambiamenti sostenibili", 21-23 September, Aosta, Italy.

[2] **Boldi, A.**, Rapp, A., & Tirassa, M. (2022). Playing as the world falls apart: the role of commercial video-games during the COVID-19 Pandemic. *Book of Abstract, 30° Congresso dell'Associazione Italiana di Psicologia (AIP)*, a cura di F. Gambarota, M. Grassi, & S. Salcuni. Padova University Press.

[3] **Boldi, A.**, Rapp, A. (2022). Professional, streamers and amateur players: a virtual ethnography for exploring organizational behaviours in different work-play conditions. The 20th European Association of Work and Organizational Psychology (EAWOP) Congress.

[http://eawop.org/ckeditor\\_assets/attachments/1678/eawop\\_legacy\\_1.pdf?1650532808](http://eawop.org/ckeditor_assets/attachments/1678/eawop_legacy_1.pdf?1650532808)

[4] **Boldi, A.**, Rapp, A. (2022). “Proto-organizations” in human-AI teams: exploring organizational abilities in a collaborative-competitive video game. The 20th European Association of Work and Organizational Psychology (EAWOP) Congress.

[http://eawop.org/ckeditor\\_assets/attachments/1678/eawop\\_legacy\\_1.pdf?1650532808](http://eawop.org/ckeditor_assets/attachments/1678/eawop_legacy_1.pdf?1650532808)

[5] **Boldi, A.**, Rapp, A. (2021). Organizational behaviours in online virtual gaming environments: a digital ethnography. The 17th Annual Conference of the Italian Association for Cognitive Sciences (AISC 2021), 13-15 Dicembre 2021, Noto, Italy.

# INTRODUCTION

In an era where digital landscapes are increasingly intertwined with real-life dynamics, the world of online gaming emerges not merely as a realm of psychological escape or a source of entertainment but as a complex ecosystem rich that entails rich social, psychological, and organizational dynamics. This doctoral thesis embarks on an interdisciplinary journey across the fields of Work and Organizational Psychology (WOP), Human-Computer Interaction (HCI), and Game Studies to unravel the multifaceted experiences within the gaming community of "Call of Duty: Warzone", a popular multiplayer online video game of the First-Person Shooter genre.

Through this exploration, this work seeks to challenge and expand the scholar's understanding of video games beyond their technological and design frameworks or artistic. By integrating insights from Work and Organizational Psychology (WOP), Human-Computer Interaction (HCI), and Game Studies, this thesis recognizes video games as more than just entertainment platforms, viewing them as fertile grounds where rich social and organizational phenomena unfold, which are of particular interest to the discipline of Work and Organizational Psychology. As a matter of fact, the examination of these virtual spaces reveals intricate social dynamics, complex organizational structures, and varied individual and group behaviors that mirror broader societal and psychological trends: these trends include the expansion of the player base, drawing an increasingly varied demographic to the gaming world – including women, and the rise of new professional roles, such as Esports players, whose activity in the gaming world lies as the intersection between work and leisure.

This interdisciplinary approach not only enriches our understanding of video games but also highlights their potential to inform us about the evolving relationship between technology and society. Seen through this perspective, video games emerge as complex virtual environments whose investigation may provide insights into the different ways in which individuals interact in a digital world.

The motivation for this research stems from the fundamental role of play in human life, which affects not only individuals but also groups, communities, and organizations – as

explored in **Chapter 1**. This section provides the theoretical foundation for this study by integrating different theories from Psychology, Human-Computer Interaction and Game Studies to offer an interdisciplinary view of the concepts of “play” and “game”. By presenting the results of a mixed-methods case study conducted during the COVID-19 pandemic, this chapter also underscores the impact of contextual factors on player interactions with gaming technologies, which are often overlooked in the current literature. Through this study, I offer a perspective that views gamers as active participants engaging dynamically with gaming technologies within a broader societal context, rather than isolated individuals cut off from the real world. The inclusion of this study at the beginning of the thesis is intentional, setting the stage for the exploration of online multiplayer gaming which constitute the core of the thesis. During the pandemic, video games gained even more significance, serving not only as digital platforms for socialization and mental health support but also as “catalysts” for the professionalization of gaming. This period saw a heightened interest in video games and their serious aspects, thus supporting the transformation of gaming into a professional activity, with Esports being a representative case.

Building on these observations, **Chapter 2** delves into the advent of Esports and the impact this transformation has had on the gaming experience, highlighting how engagement with video games has expanded beyond leisure to include professional pursuits. This chapter also identifies the current research gaps, with particular reference to the lack of comparative studies between casual and Esports players – who engage in gaming for different reasons, the scarcity of research on FPS video games, and the need for qualitative longitudinal investigation in this field. Bridging this gap is important for several reasons: firstly, comparing players with different interests in gaming activities, such as casual and Esports players, could enable a more comprehensive understanding of the gaming world and its diverse practices; secondly, the focus on First-Person Shooter (FPS) games is significant due to the genre’s popularity, its presence in the Esports domain, and its capacity to foster complex dynamics such as collaboration, teamwork, and competition; thirdly, a qualitative, longitudinal approach is essential for gaining access to the gaming communities and allows the exploration of players’ personal experiences, providing insights that quantitative methods alone may not easily capture.

Central to this thesis is the ethnographic exploration of the Warzone gaming environment, which focuses on casual and Esports players' experiences within this gaming environment. The research aims to investigate three main areas: the processes of socialization, learning, and collaboration among players; the organizational dynamics within Warzone's teams and groups; and the communication patterns among players, with a comparison between casual and Esports players. To answer these questions, **Chapter 3** describes in detail the methodological approach, which consists of participant and non-participant observations, content and communication analysis, and the use of semi-structured interviews. Most importantly, it provides a rationale for selecting the game: its large player base, the significant launch timing during the pandemic, its capacity as a rich observational site for social dynamic, and its active Esports community. Furthermore, this chapter discusses the ethical considerations of conducting research in this virtual space, delineates the challenges encountered in conducting the research, and presents the strategies employed to ensure a transparent relationship with participants.

In **Chapter 4**, the findings of the thesis are reported, being organized into three main sections. The first one explores the Warzone gaming community, describing how casual gamers build relationships with other players, entering and leaving complex gaming organizations known as Regiments and learning how to play leveraging on these connections. Moreover, this section sheds light on the group dynamics within Warzone, focusing on the formation of squads – that are teams composed of three to four players, and the challenge they face in gameplay. The second section shifts focus to the anti-social behaviors manifesting within the community, with a particular emphasis on cheating, a phenomenon which cannot be reduced to a breach of game rules but as a mirror for social dynamics. Here, I explore how perceptions of cheating vary among players, influenced by factors such as experience level and the broader context of their gaming activities. Finally, the third section shifts the attention towards the communication patterns observed among players during gameplay, revealing that while casual gamers and streamers often prioritize social interaction and the enjoyment of the game experience, Esports players exhibit a more strategic and goal-oriented communication style, emphasizing efficiency, coordination, and performance.

The findings of this doctoral work are discussed in light of the current literature in **Chapter 5**, providing two main contributions to research. The first consists in providing empirical evidence for the distinction between casual and Esports players, which transcends mere terminological differences. This separation is rooted in their distinct communication styles, socialization processes, and organizational strategies adopted during the gameplay. Such a distinction is important: it reveals that different conceptions of “play” - where elements of leisure and work intertwine, shape into diverse gaming practices enacted by figures in the gaming community. The second contribution of the thesis focuses on the understanding of cheating as a “black box”, a complex phenomenon difficult for players to detect and manage. This ambiguity cultivates a surveillance culture, contributing to an atmosphere of distrust that can detract from the overall gaming experience.

In the attempt to elucidate the importance of investigating gaming communities for the field of Work and Organizational Psychology, a final chapter has been added to this thesis. **Chapter 6** advocates for recognizing virtual gaming spaces as legitimate contexts for exploring themes central to the discipline of Work and Organizational Psychology, such as leadership, teamwork, conflict resolution, and the development of professional competencies. Moreover, this section addresses the limitations of the study and offers a reflection on the methodological and ethical challenges that I have encountered while conducting the field work, emphasizing the need for support to early-career researchers navigating these complex landscapes.

In conclusion, this doctoral thesis calls for a reconsideration of video games in the digital age and their potential to inform and enrich our understanding of the human experience.

**CHAPTER 1. PSYCHOLOGICAL DYNAMICS AND CONTEXTUAL  
INFLUENCES IN VIDEO GAMING: INSIGHTS FROM A MIXED-  
METHODS CASE STUDY**

## Notes of the researcher

For the writing of this chapter, I relied on several sources and academic experiences.

The first part of the chapter is the outcome of the six months spent as a visiting PhD student at the University of Eindhoven. During this period, I had the opportunity to participate in the course “Design for games & play III: playful interactions” taught by Professor Max V. Birk, Assistant Professor in Human-Technology Interaction group at Eindhoven University of Technology, joining the course as a “hybrid teacher”. I explored topics related to video game design and their significance in influencing player experience, which are hereby reported. The course integrated perspectives from both Computer Science and HCI, which contributed to understanding the role of design, as well as psychological perspectives that aided in modeling different player types, their motivations, and specific approaches to gaming.

In the second part of the chapter, the focus switches to the importance of considering the interaction between player subjectivity, the possibilities of interaction offered by the formal structure of video games - in other words, the *affordances*, and the context surrounding the player. These considerations have been fueled by research conducted during the COVID-19 and the lockdown that resulted from the health emergency, in collaboration with my supervisors Maurizio Tirassa and Amon Rapp, which resulted in several publications that are partly reported here. In the paper, published in 2021 in the journal “*Human-Computer Interaction*,” we showed how individuals have used video games in a peculiar and unique manner compared to their pre-emergency “normality”, to meet their needs and restore their well-being compromised by the crisis. Instead, the chapter published in 2023 by Bloomsbury highlighted how certain game features lent themselves better to specific uses, revealing the profound connection between game technology and its application.

## Introduction

In the digital age, video games have risen as a significant cultural and technological force. This chapter addressed the complex relationship between video games and their players, exploring their effects on individuals. When we intertwine the study of video games with psychology, some pressing questions emerge: Do video games do more harm than good? Should children be shielded from or encouraged to engage with this medium? What are the effects of videogames on people, and are there vulnerable groups who should avoid them? Lastly, are there best practices or signs that indicate whether we are using these tools effectively and safely or not?

These questions gain relevance in a time where video games have become a widespread pastime among the young. Health concerns are notable, as the lifestyle associated with gaming can be detrimental: sedentary habits, potential social isolation, and the immediate rewards that video games offer, like a sense of well-being, control, and pleasure that are often hard to find elsewhere. However, answering whether video games are intrinsically good or bad is nearly impossible. Instead, this chapter proposes to think about the type of experience video games offer and the interaction between this experience and the individual.

In this vein, psychology researchers are divided, both in the questions they pose and the conclusions they draw. The discourse surrounding video games is then polarized: critics often point out the negative effects of gaming, with some categorizing excessive gaming as a “disorder” related to its technological nature and the type of experience it provides; instead, other scholars emphasize the value of play, extending it to digital video games, considering their use in diagnosing psychological disorders, promoting well-being, and as a therapeutic tool.

To contribute to the discourse around the psychological experience of playing video games it is essential to consider the inherent technological complexity of video games. Their multifaceted nature goes beyond simple recreational activity, offering avenues for “play” that encompass both leisure and enjoyment as well as structured challenges typical of “games.” This duality highlights the complexity of *video games* going beyond the

traditional concept of *games*. While psychology has offered insights into the role of play in child development, the technological component mediating the interaction between the individual and the gaming activity is significant, and video games have changed drastically since their inception.

In particular, there is a need for a deeper understanding of the experience of playing *contemporary video games* originally designed *for adults*. Many of the reflections on the role of games and video games today come from different traditions, such as Game Studies and Human-Computer Interaction (HCI), which have greatly contributed to the topic. Game Studies focus on the socio-cultural dimensions of video games, drawing from various disciplines such as media studies, cultural studies, psychology, and sociology, while HCI focuses more on the technical and design aspects of interaction, but also includes psychological and sociological theories. Acknowledging and integrating these perspectives is essential to having a broad and rich perspective on the topic.

This chapter is organized as follows. First, it explores fundamental concepts of play and game. Then, it examines the unique characteristics of video games and how these affect the player's personal experience. The positive and negative aspects of video gaming, focusing on its evolution and how it has reshaped the player experience, are also addressed. Then, the chapter explores theories that are focused on the players, specifically. At the end of the theoretical section, directions for future research are offered, underlying the need for a more robust psychological perspective on video games, especially in the context of adult play. This paves the way for the description of the empirical longitudinal study on video games usage conducted during the pandemic and the discussion of its results.

# 1. Key Concepts Around Video Games Across Disciplines

**Focus:** This section delves into the understanding of “play” and differentiates it from the concept of “game”. Transitioning to video games, it then provides a definition of these technologies and examines the impact of game design on player experience.

**Keywords:** #Play, #Game, #Videogame #Design #Theory

## 1.1 Play Across the Lifespan: A Psychological Perspective

Play, a universal and intrinsic part of human behavior, has been a subject of interest in the field of psychology, offering a window into the cognitive, emotional, and social development of individuals. Traditional psychological theories collectively underscore the profound impact of play on the individual and each theory gives unique insights into the multifaceted role of play across different stages of human life.

A summary of this first section is offered in Table 1, while the main takeaways of the section are reported in Section 1.1.4.

*Table 1. Key theories around the concept of “play”*

Section	Key contributions	Concept of play”
Section 1.1.1	Freud’s (1920/1959) interpretation of play as a means for children to manage unconscious desires indicates its role in emotional processing; Piaget’s (1951) focus on cognitive stages shows how play is integral to intellectual development; Vygotskij (1962) suggests that play is a crucial medium for cultural and social learning; Erikson (1950, 1977) emphasizes the role of play in identity formation and its therapeutic value.	Play is understood as a mechanism for coping with emotions and understanding the world and a medium for complex social and identity development of children.
Section 1.1.2 centric to a more holistic perspective.	Bateson’s (1955/1972, 1978) exploration of “metacommunication” within play expands the boundaries of play, suggesting an interaction between players and their environment; Sutton-Smith’s (1997, 2017) highlights the inner ambiguity of play ad highlight its therapeutic role; Brown (2009) emphasizes play’s	Play is recognized as an activity that has a more integrated and continuous role for adults. The therapeutic value of play is recognized.

	continuous importance for adult learning and mental agility.	
Section 1.1.3	Huizinga (1955) elaborates the concept of <i>magic circle</i> and underlines the societal importance of play and games; Caillois' (1959/2001) classification of games and the dichotomy of <i>paidia</i> and <i>ludus</i> provide a systematic approach to categorizing play experiences; Lund (2014) builds on previous work to provide a definition of "play" and "game" and highlight their differences	The concept of "play" must be distinguished from that of "game" as the two dimensions tap into different psychological experiences.

### 1.1.1 Play and Development: From Freud to Erikson

Psychology has offered a comprehensive understanding of the dynamic and multifunctional nature of play, highlighting its significance as a vital component in the psychological growth and well-being from childhood through adulthood. In "*Beyond the Pleasure Principle*" (1920/1959) Freud conceptualized play as a mechanism for children to express and manage unconscious desires and anxieties. In the case presented in the book, Freud uses the example of a child's game, often referred to as the "fort/da" game, to illustrate his theories: in this game, a child repeatedly throws away a toy ("fort," in German, meaning "gone") and then pulls it back ("da", in German, meaning "there"). Freud interprets this as the child's way of mastering the distress associated with the mother's absence. By replicating the situation in play, the child shifts from a passive experience, undergoing the trauma of separation, to an active one, thereby gaining a sense of control and working through the emotional distress. In this sense, playing could serve as a therapeutic space, offering a symbolic resolution of internal conflicts and the realization of hidden wishes in a safe environment.

Following a different perspective, Piaget (1951) explored the cognitive dimension involved in play, arguing that this activity is crucial for children's learning and intellectual growth. He identified distinct stages of play, each facilitating key cognitive processes like *assimilation*, that is acquiring new information and integrating into their existing ideas and concept, and *accommodation*, that refers to changing one's cognitive structures to integrate new information that does not fit into existing schemas, thereby shaping a child's understanding of the world. Challenging the idea of children going through stages,

Vygotskij (1962), stated that play has an important role in the development of the child, emphasizing its role in social and cognitive development within a cultural context. Through play, children can experiment with social roles and rules and internalize cultural norms and practices, thus developing new social and cognitive skills.

Another relevant contribution to the role of play for the development of the individual has been provided by Erikson (1950, 1977), who highlighted the therapeutic role of play and its role in psychosocial development. He shows that play is not only a medium for expression of inner conflicts, but it can be a way to seek symbolic solutions, an attempt to organize their understanding of the world. Through play, different aspects of the past are re-lived, re-presented, and the potential real-life consequences are anticipated and explored within imagination. Moreover, play emerges as a pivotal medium through which different facets of identity can be explored at different stages of development. His clinical observations of children show that, through play, particularly with block constructions, children often depict and work through family relationship issues. This form of play becomes a critical medium for them to express and manage their perceptions and emotions regarding these dynamics.

Together, these theories present a comprehensive view of play's significance, illustrating its critical role in emotional, cognitive, social, and psychosocial development across the lifespan.

### **1.1.2 Play for Adults: Contemporary Theories**

Recent scholarly discourse has shifted focus from the traditional emphasis on play's role in childhood development to its significance in adult life. This paradigm shift reflects an evolving recognition that play is not solely a child-centric activity but is a vital aspect of well-being and personal growth in adults, as well.

A relevant contribution in the contemporary discourse has been made by Bateson (1955/1972, 1978), who offered an influential perspective in the field of psychology. His approach was distinct from traditional theories as he explored the concept of play through the lens of communication theory and systems thinking. Bateson's most significant contribution to the understanding of play came from his study of communication patterns and his theory of "metacommunication" within play: this concept refers to the signals that

participants use to indicate that their activities simulate, and thus, refer to other activities (i.e., meta-communicating). Specifically, the actions are part of a game and not to be taken literally, a crucial ability in understanding how individuals differentiate play from reality. Another relevant concept is that of *framing*, which means that the players understand the context - or *frame*, in which the actions take place. This frame differentiates play from other forms of action, indicating that the normal rules and consequences of reality do not apply. His work complements the psychological views of play by highlighting the importance of understanding the context and communicative aspects of play.

Building on this foundation, Sutton-Smith's (1997, 2017) work furthers the understanding of play and its role in adulthood. First (Sutton-Smith, 1997), he addresses the complex meanings of play, highlighting the concept's inherent ambiguity. Drawing from different disciplines, spanning from biology to psychology and sociology, he identifies 7 distinct "rhetorics", that are ideologies or frameworks through which different forms of play have been understood. For instance, games based on chance, such as dice or card games, would reflect a rhetoric of "fate", mechanisms through which the fate of individuals could be revealed; instead, games valued by society such as problem-solving or physical fitness, are rooted in the rhetoric of "progress", seeing play as part of skills development and personal growth. Then, Sutton-Smith (2017) claims that play is not merely recreational but serves as a means for expressing and managing emotions, having the opportunity to gain control on these feelings. Through play, people could learn how to overcome emotional challenges, thus diminishing the influence these feelings have on them.

Complementing these perspectives, Brown (2009) focuses on the importance of play for continuous learning and mental agility to all stages of life. An example offered by the author to illustrate his perspective is the case of an aerospace company, whose new engineers did not perform as well as more experienced colleagues: despite their academic credentials, the younger struggled with practical problem-solving challenges. Upon analysis, Brown observed that the older engineers had developed impressive problem-solving skills during their childhood, being involved in construction. In light of this, Brown states that play is a medium for keeping the mind agile and receptive to new experiences and ideas. In his exploration of the value of play for the individual, he highlights the

importance of experiential learning through play at all stages of life, and also for maintaining a flexible, open mind during adulthood.

Collectively, these perspectives contribute to the understanding of play as a multifaceted phenomenon whose relevance does not only point to cognitive and emotional development in childhood but also as a key component in fostering creativity, adaptability, and emotional expression. More recently, the value of play for the entire span of human life has been acknowledged. However, while psychologists focus on the role of play, it should be clearly stated how it differentiates from the concept of game and gaming - which is the objective of the next section.

### **1.1.3 Defining Game, Defining Play**

In the field of Game Studies, the concepts of “game” and “play” have been rigorously analyzed, leading to a deeper understanding of their roles in both individual development and cultural contexts. Key contributions by Johan Huizinga and Roger Caillois have significantly shaped this understanding, offering diverse perspectives that range from anthropological to contemporary digital cultures.

Huizinga (1955) has provided a foundational analysis of play’s role in human culture. He argues that play is a necessary condition of the generation of cultures. He defines play as a “*voluntary activity or occupation executed within certain fixed limits of time and space, according to rules freely accepted but absolutely binding*” (p. 28). Play is then a free and meaningful activity, existing outside of ordinary life yet also imbuing it with meaning. In his study, the concept of the *magic circle* is particularly relevant: with this expression, Huizinga refers to the theoretical boundary within which play occurs, separated from the realities of “serious” daily life yet fundamental in shaping cultural practices and institutions.

Building on and critiquing Huizinga, Roger Caillois (1959/2001) expanded the analysis of play within human culture, offering a nuanced critique of Huizinga’s framework. Caillois identified a lacuna in Huizinga’s exploration, particularly in addressing the diversity of play forms and their impact on players. He proposed a classification system for games, categorizing them into four essential types: *agon* (competition), which involves competitive games that require skills and push players to do effort to win by defeating the opponents; *alea* (chance), which is concerned with games of pure chance (e.g., card games

or dice) where the outcome is determined by random factors; *mimicry*, which represents make-believe games, where participants take on roles of other people or creatures; and finally, *ilinx*, referring to activities that allow players to experience a state of disorientation and loss of control. Moreover, Caillois introduced a distinction between *paidia* and *ludus*: the first is characterized by a “playful” attitude, lack of rules, creativity and focus of imagination, while *ludus* represents rule-bound, competitive games that require skill and effort and are approached with a serious attitude.

The foundational works of Huizinga and Caillois have significantly influenced contemporary game and play studies, particularly in shaping the conceptual understanding of these terms. Caillois’s expansion of Huizinga’s perspective of games has been instrumental in differentiating between *play* and *game*. His contributions have been pivotal in understanding the “genre” of games and the qualitative differences among various games, which lead to distinct psychological experiences for players. Lund (2014), incorporating these reflections along with insights from sociology, anthropology, philosophy, and computer science, provides a comprehensive definition of play and game. In Table 2, a more detailed comparison of these concepts is offered.

Table 2. Comparing “play” and “game” (source: Lund, 2014)

Play	Game
Play has a spontaneous, unproductive, and creative nature. It is an explorative activity that often emphasizes cooperation and negotiation among participants.	Games have variable and quantifiable outcomes, where players exert effort to influence these outcomes.
In play, the rules are flexible and negotiated during the activity. The activity itself is the primary focus, rather than achieving a specific outcome.	Games are defined by a rule-based formal system. They have a clear set of rules that dictate the parameters of the game.
Play involves pleasure, fulfills a human need and is central to social development and life.	Games evoke “serious fun” linked with satisfaction as well as tension and risk.
Play is a “trans-historical” category, being present across cultures and historical periods	Game is a “historical” category, understood within its social context.

**1.1.4 Main takeaways**

The theories and perspectives presented in this section, along with many other literary contributions, have been instrumental in differentiating the psychological dimensions of “play” from “game” and have informed research in game studies. However, the transition from analog to digital gaming necessitates the integration of additional theories and reflections. The interactive aspect of technology in video gaming introduces a level of complexity that makes the experience of video games qualitatively different from traditional, analogic games. The next sections will explore how these additional theories can be integrated to better understand the unique nature of digital gaming and its impact on players and society.

### 1.2 From “Games” to “Videogames”: The Relevance of Game Design

Videogames can have a significant impact on the player’s experience through their unique design characteristics. Here, an in-depth overview of various definitions of “video games” is provided. These definitions, drawn from different academic perspectives, help frame our understanding of video games, concluding with a foundational definition that underpins the rest of the chapter. Since an understanding of video games as design objects is essential for analyzing the experience of the player, a description of well-known theoretical frameworks that facilitate the analysis of games is presented.

A summary of these theoretical frameworks for analyzing video games is offered in Table 3, while the main takeaways of the section are reported in Section 1.2.3.

Table 3. Theoretical lens for the analysis of video games

Model	Key points	Contribution
MDA Framework (Hunicke et al., 2004)	Focuses on Mechanics (rules/procedures), Dynamics (player interaction with mechanics), and Aesthetics (emotional responses).	It aids in understanding game design complexity and its influence on player experience.
Rules of Play (Salen & Zimmerman, 2004)	Emphasizes the interconnectedness of Rules (game structures), Play (experiences from interactions), and Culture (socio-cultural context).	It offers a broader cultural perspective, situating games within societal contexts.

Four Lenses of Play (Bekker et al., 2014)	Considers emotional and social aspects of games through lenses of Competence, Make-believe, Emotional Spectrum, and Social Interaction.	It focuses on how game design influences player emotions and interactions.
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### 1.2.1 Towards a Shared Definition of “Video Games”

The need to provide a definition of the term “video games” goes beyond simply achieving terminological accuracy, rather serving to inform our comprehension and analysis of this technology. While a singular definition may seem elusive to reach, engaging in this discussion is relevant for research, as it helps distinguish video games from other digital and interactive artifacts thus offering a guiding conceptual framework. Arjoranta (2019) suggests that, instead of pursuing a rigid, single definition, it should be recognized that games display a range of overlapping features and patterns that collectively shape our understanding of them. A multidisciplinary approach is then needed, as each discipline sheds light on different facets of these complex technological mediums. The objective here is not to present an exhaustive enumeration of all possible definitions of video games but rather to offer an overview that encapsulates their essence from multiple angles.

From a formal standpoint, video games can be defined based on the digital nature of the interaction provided: they are games “*played by electronically manipulating images produced by a computer program on a television screen or other display screen*” (Oxford English Dictionary, 2014). Scholars within the Human-Computer Interaction (HCI) perspective, such as Barr et al. (2007) extend this understanding by considering video games as influential forms of computer software which contain *value systems*, that are networks of values: these values are not abstract ideas but practically embedded in the game design, the interfaces, and the gameplay. These systems shape the player experience, nudging desirable player behaviors and directing players towards actions that are deemed “correct” or desirable. This perspective emphasizes the design characteristics of video games, highlighting their role in shaping players’ engagement with the game world.

Expanding this definition, and endorsing a more humanistic view of these media, Juul (2010) characterizes video games as interactive, rule-based systems whose outcomes are

variable, because the player has an active role influencing the game world. Since the interaction between the video game and the player is variable, the game structure intertwines with the player's action, giving rise to a unique and dynamic experience. However, while Juul conceptualizes the videogame "narrative" as a function that provides context to the gameplay, other scholars emphasized the narrative as a more fundamental part of the experience of playing video games (e.g., Jenkins, 2004; Fullerton et al., 2008; Salen & Zimmerman, 2004). These authors recognized video games not just as entertainment and technological tools but as platforms for storytelling, cultural expression, and aesthetic experiences. Indeed, video games can be viewed as "socio-technical systems" (Guzmán, 2023) meaning they are not just technological artifacts with varying degrees of complexity but are spaces for social interaction: they are interwoven within their broader contexts, composed of social practices, meanings, and culture dynamics. This approach acknowledges that video games are shaped by and actively shape society, its practices, and shared norms.

Integrating these viewpoints offers a comprehensive picture of video games as multifaceted, interactive digital systems that blend narrative, aesthetics, and societal aspects. Nowadays, video games are not recognized as mere entertainment devices but as influential platforms impacting cognitive abilities, emotional states, social interactions, and cultural norms. The convergence of human-computer interaction and psychology is crucial, emphasizing design elements and their influence on user experience. This approach brings to the forefront the concept of "player experience" and how this is influenced by the design of the game.

In the following subsection, I will explore relevant theories that provide a framework for analyzing video games as design objects. This is instrumental for the ethnographic study, offering insights into the intricate relationship between game design and player interaction.

### **1.2.2 Analytical Frameworks to Analyze Video Games**

In this section, I navigate through three pivotal analytical frameworks for the understanding of video games and the importance of their design features.

Firstly, the *MDA Framework* (Mechanics, Dynamics, Aesthetics), as proposed by Hunicke et al. (2004), is a useful model that helps dissect video games into their constituent parts. To start with, *mechanics* refer to the rules and procedures of the game, the components explicitly controlled by the game's designers, defining the possibilities and constraints within the game environment; then, *dynamics* emerge from the interplay between the game's mechanics and player actions: they symbolize the run-time behavior of mechanics acting on player inputs and "cooperating" with other mechanics; finally, *aesthetics* in the context of gaming refers to the emotional and experiential responses elicited from players as they interact with the game system. To illustrate these terms, let's consider *World of Warcraft* (WoW) (Blizzard Entertainment, 2004), an iconic massively multiplayer online role-playing game (MMORPG), as an example. Here mechanics include, for instance, the character creation and development, a quest system, and a combat system. Moreover, the vastness of WoW's world design leads to emergent exploration dynamics, with players often finding themselves exploring unknown territories, encountering unexpected events, and discovering hidden areas or quests. In terms of aesthetics, the opportunity to explore a vast and richly detailed game world can lead to feelings of wonder and immersion.

Salen & Zimmerman's (2004) *Rules of Play* model broadens the scope of the analysis by incorporating the cultural aspects into video games. Their model relies on three principal categories: *rules*, which refer to the formal structures and principles underlying a game, shaping its mechanics and dictate the parameters of player interaction; *play*, reflecting the emergent properties arising from the interaction of players with the game rules; and, finally, *culture*, underscoring the socio-cultural milieu in which video games are situated, and encompassing player communities, societal norms, and expectations. With respect to the MDA framework, that clearly separates between the design elements, the player interaction, and the response, this model emphasizes the interconnectedness of the elements that compose games as systems, which are situated in a broader cultural context.

Finally, the *Four Lenses of Play* (Bekker et al., 2014) shifts the focus towards player emotions and social interactions. This model comprises four key "lenses", or perspectives, each of which illuminates a different facet of play: the first lens is *competence and control*, which pertains to the player's desire to feel skillful, competent, and in control when engaged in a playful activity; the second is *make-believe and immersion*, focusing on the capacity of play

to engage players, drawing them into a world of make-believe; the third lens concerns *positive and negative emotions* that are elicited by gameplay; finally, the last lens of *social interaction* has to do with the social aspects of play, and examines the social interactions occurring during play. This model complements the previous frameworks by emphasizing the psychological and emotional responses elicited by game design, offering a perspective particularly relevant in multiplayer and community-driven games.

### **1.2.3 Main takeaways**

This section began by defining “video games” through various academic lenses. After recognizing video games as complex designs crucial for understanding player experiences, I explored several key theories that analyze games through their design characteristics. These included the MDA framework Hunicke et al. (2004), highlighting mechanics, dynamics, and aesthetics; Salen and Zimmerman's (2004) focus on rules, play, and culture; and the “Four Lenses of Play” (Bekker et al., 2014), which consider emotional and social aspects. Together, these models help us see how video games, which are more than mere entertainment, can significantly shape a player’s experience. The interaction between game design elements and the individual, with a particular focus on defining what is “player experience” is further explored in the next section.

## 2. Interacting with Video Games: Characteristics of Games and Players

**Focus:** This section focuses on the role of game design in shaping players motivations and emotional responses, and highlights the complexity of player experiences shaped by both game elements and individual player characteristics

**Keywords:** #GameDesign, #PlayerExperience, #Videogame #PlayerTypes

### 2.1 Player Experience in Video Games

The design of a game plays a pivotal role in shaping the player’s experience, acting as a catalyst for specific behaviors, dynamics, and emotions. These elements not only determine the fundamental mechanics of how the game is played but also deeply influence the player’s cognitive processes and emotional reactions.

A summary of the impact of game design on the player experience is offered in Table 4, while the main takeaways of the section are reported in Section 2.1.2.

Table 4. Player experience in video games

Dimension	Player Experience	References
Motivation and Engagement	Game mechanics like leaderboards and loot boxes influence motivation and enjoyment, affect player drive and engagement.	Bowey et al., 2015; Yin & Xiao, 2022; Hodge et al., 2022
Social Interactions	Game design impacts social interactions among players. Multiplayer mechanics promote social interaction and community building.	de Valk et al., 2015; De Kort & IJsselsteijn, 2008
Emotional Experiences	Game design influences emotional responses, essential for player engagement and narrative impact.	Cole & Gillies, 2022; Bopp et al., 2016; Hunnicke et al., 2014
Sense of Autonomy and Agency	Different game genres affect players’ sense of autonomy and agency, influencing satisfaction and engagement.	Ryan et al. (2006); Ryan & Deci (2000); Eshuis et al., 2023; Krcmar et al, 2018

### **2.1.1 Defining and Exploring the “Player Experience”**

Numerous studies (for a meta-analysis, refer to Caroux & Pujol, 2023) have corroborated the notion that game design elements can significantly impact the *Player Experience* (PE): this is a multifaceted concept which refers to the subjective and holistic perception a player has while engaging with a game, and it encompasses the emotional, cognitive, and physical responses elicited in a player through interaction with a game. The player experience is affected by the interaction with the game system, the broader context in which the game is played, and the temporal dimension (Nacke & Drachen, 2011); it incorporates various factors such as emotions, sense of immersion and presence, motivation, and enjoyment derived from the game (Nacke & Lindley, 2008; De Kort and IJsselsteijn, 2008; Ryan et al., 2006).

Notably, player experience is not only shaped by game design elements but also by the characteristics of the individual player. Therefore, players’ experience reflects individuals’ personal perception and interpretation of the gaming environment, alongside the resultant impact on emotions and cognition. This suggests that to fully understand the player’s experience it is essential to consider both the game itself and the characteristics of the player engaging with it.

The next subsections will delve into how game design can shape the cognitive, emotional, and social facets of player experience. This will be achieved by presenting an overview of studies that have investigated the influence of game design on aspects such as motivation and engagement, social interaction, emotional experience, and the sense of autonomy and agency.

#### *2.1.1.1 Motivation and Engagement*

The mechanics of a game play a pivotal role in driving a player’s motivation and shaping their journey through the game. For example, the design of leaderboards can significantly influence a player’s drive and enjoyment. A study conducted by Bowey et al. (2015) demonstrates this impact, showing how even small changes in leaderboard dynamics can alter player experience: players felt more competent, autonomous, and immersed after their success in the game was displayed by the leaderboard. This shows that the functioning of the leaderboard, which can display the player’s performance, has a great

impact on the player's perception of failure or success and, therefore, on their general psychological state.

A particularly intriguing aspect of game mechanics is the use of random reward systems (RRMs), like "loot boxes", which are prevalent in Massively Multiplayer Online (MMO) games, mobile games, and free-to-play games. These RRM randomly dispense rewards, which players can purchase with real money or in-game currency, like character costumes, weapons, and power-ups. This element of chance of randomness in obtaining valuable rewards can be a strong motivator, injecting variability, and excitement into gameplay, but can also detract from player experience leading to frustration (Yin & Xiao, 2022). As a matter of fact, these systems have also drawn criticism for their similarities to gambling, raising concerns about their potential risks (Hodge et al., 2022).

#### 2.1.1.2 Social Interactions

The design of video games has a subtle yet notable impact on the type and extent of social interactions arising among players. The rules and frameworks established in game design can stimulate the creation of social dynamics, especially in open-ended play environments, where the game's rules and objectives are not predefined but left to players' interpretation. The dynamic of interactions within these open-ended environments are well-documented by de Valk et al. (2015).

In multiplayer games, for instance, the mechanics are often deliberately crafted to promote social interactions that can range from cooperative tasks and competitive challenges to more casual forms of interaction. Such social elements are not just additional features; they are integral to enhancing the overall enjoyment of the game. De Kort & IJsselsteijn (2008) challenge the common perception of video game playing as an isolating activity, highlighting the potential of these technologies to create a sense of community and foster social connections. The sense of being together with others, in other terms the *social presence*, has a great impact on player experience. The presence of others, be it co-located in the same room or mediated online, can greatly affect players by inducing emotions through emotional contagion: this refers to the phenomenon where one's emotions trigger similar emotions in others. The importance of these aspects is deepened in the next subsection.

### 2.1.1.3 Emotional Experiences

Video game designs play a crucial role in fostering emotional exploration and creating eudaimonic gameplay experiences, which are key to enhancing player satisfaction and well-being (Cole & Gillies, 2022). Emotional responses are one of the primary effects engendered by interaction and engagement with video games: these can range from the exhilaration of victory to the suspense of high-stakes scenarios, demonstrating the capacity of games to evoke a diverse array of emotions. Notably, the emotional spectrum is not limited to just positive experiences, but also feelings of frustration, sadness, and fear (Bopp et al., 2016), which are also vital components of the gaming experience and can deepen the player's involvement and enrich the impact of the game's narrative.

According to the (MDA) framework by Hunicke et al. (2014), these emotional responses are essential elements of the aesthetic experience in gaming. They are typically elicited through a combination of various game elements: the gameplay mechanics, the narrative, the aesthetics, and social interactions. For instance, a challenging level can test a player's resilience, a well-written character can evoke empathy, and the camaraderie in a multiplayer setting can bring joy, each eliciting distinct emotional responses in players.

### 2.1.1.4 Sense of Autonomy and Agency

Finally, the characteristics of a video game can influence the player's sense of autonomy and agency. The Self-Determination Theory (SDT) by Ryan & Deci (2000) offers a theoretical framework for understanding motivation in video game play and its effects on players. Within this context, *autonomy* refers to the player's freedom to make choices and decisions in the game world. Research by Ryan et al. (2006) indicates that players who perceive greater autonomy and competence, higher sense of presence and social connection with others - or *relatedness*, during gameplay, report heightened engagement with the game. This study has profoundly influenced scholar understanding of video games, underscoring the importance of addressing these needs to create engaging gaming experiences through well-designed game technologies.

Different games can offer varying levels of autonomy and agency to players, thus shaping their overall gameplay experience. Eshuis et al. (2023) found that players' enjoyment levels vary among different video game categories, applying SDT to explain why participants who

preferred single-player games had higher levels of enjoyment compared to those who played Massively Multiplayer Online (MMO) games. In their opinion, the reason stems from the higher sense of competence and autonomy fostered by these games. However, even among vastly different games, such as Role-Playing Games (RPG) and First-Person Shooters (FPS), no significant differences were found, challenging initial expectations. In fact, in a game like *Call of Duty: Black Ops* (Treyarch, 2010) the player typically follows a preset narrative with little room for decision-making, thus reducing autonomy. However, players can derive a deep sense of satisfaction from overcoming challenges and achieving goals, and improving their skill in combat and strategy, thereby maintaining a sense of agency. As shown by Krcmar et al (2018), players process and engage with games and their content in diverse ways, leading to varied outcomes and experiences.

### **2.1.2 Main takeaways**

Viewing video games as design objects reveals the intricate relationship between game design and the player experience. This relationship is highlighted through the multifaceted concept of “player experience” (PE), which encompasses the subjective and holistic perception a player has while engaging with a game. Design elements - from game rules and mechanics to aesthetics and socio-spatial aspects, can mold the players’ cognitive, emotional, and social experiences. However, individual differences are crucial; each player’s unique approach to the same game adds another layer of complexity. In the next section, we will delve into these individual variances, providing an overview of the topic of modeling players.

## **2.2 Psychological Features of Video Games Players**

The player’s experience does not only depend on the game’s design, but it is rather a complex interplay of the individual’s psychology and the game elements. In this subsection, I explore the evolution of the scholar understanding of player psychology, where the focus has shifted from constructing rigid taxonomies aimed at classifying various player typologies to adopting a more holistic approach that acknowledges the fluid and diverse nature of players and the way they interact with the game.

A summary of the impact of game design on the player experience is offered in Table 5, while the main takeaways of the section are reported in Section 2.2.3.

Table 5. Motivations and characteristics of video game players

Player Taxonomies	References
Players can be categorized into distinct groups with unique motivations and behaviors, yet these classifications are not strictly exclusive. Bartle’s Taxonomy of Player Types, is a foundational framework.	Bartle, 1996
Newer theoretical frameworks expand the understanding of players and delve into how players’ inherent and personality traits influence their game preferences, moving beyond the initial categorizations proposed by Bartle.	John et al., 1991; VandenBerghe (2012); Yee and Ducheneaut (2018); Nacke et al., 2014
The concept of distinct player categories is increasingly being questioned. Player experiences are more nuanced, with individuals often embodying characteristics from several typologies.	Hamari & Tuunanen, 2014
The interaction between the player and game elements is pivotal. This dynamic leads to diverse “playing styles,” where players exhibit different in-game behaviors and preferences based on how they interact with the game’s elements.	Tondello et al., 2017

**2.2.1 Player Taxonomies**

Scholars have emphasized the existence of “player types”, categories of players each characterized by a specific psychology. The concept proposes that varied taxonomies, each reflecting different aspects of psychology and personality, offer a framework for comprehensively understanding player motivations and preferences.

*2.2.1.1 The Origin: Bartle’s Taxonomy of Player’s Type*

The concept of a “taxonomy” of players, first proposed by Bartle (1996), offers an insightful approach to understanding the diversity among video game players. According to him it is possible to group players in four main categories: *achievers*, *explorers*, *socializers*, and *killers*, each characterized by distinct motivations and behaviors.

*Achievers* are goal-oriented players who are motivated by in-game progress, prestige, and accomplishments. They find satisfaction in gaining points, completing challenging tasks, and earning rewards and are primarily driven by the ambition to succeed within the game. *Explorers*, on the other hand, are driven by curiosity and the joy of discovery and appreciate games that offer a complex, detailed world that rewards exploration and curiosity. *Socializers* are players who engage with games primarily for the purpose of social interaction, enjoy communicating with others, building relationships, and being part of a community. The gameplay serves as a backdrop for social experiences, with the interactions between players often being more significant than the game itself. Finally, *Killers* thrive on competition and domination, seeking to exert power over others, relishing in victories that showcase their superiority. These players are often drawn to games that offer direct player-versus-player interactions and experience joy when win and defeat other players.

#### 2.2.1.2 *Beyond Bartle's Taxonomy*

Bartle's taxonomy, while simplistic in its initial form, laid the groundwork for more comprehensive investigations of player types. It recognized that players have different motivations, moving away from a general approach to a more personalized view of game design.

Psychology has contributed to expand and enrich research on player typologies by exploring players' individual psychology and motivations. Psychological theories like the Five Factor Model (FFM or Big5, John et al., 1991) have been employed to understand the psychological dimensions that differentiate players, but they were not specifically designed for video games, although being informative for studying gaming preferences and style. Therefore, other scholars proposed new frameworks to understand why players enjoy games and what their preferences are, developing models targeted specifically to players.

For instance, VandenBerghe (2012) proposed the "Five Domains of Play," based on the Five Factor Model previously mentioned, to understand player motivations by categorizing aspects of play into different areas: *novelty*, which speaks to the human inclination towards exploration and discovery and satisfying player's curiosity; *challenge*, which taps into the player's need for achievement and mastery, satisfying the need to overcome difficulties

and achieve goals; *stimulation*, which is the social aspect of gaming, satisfying the need to connect, compete and cooperate with others; *harmony*, which emphasizes cooperation and the pursuit of social cohesion; and, finally, *threat*, which attracts individuals who need a controlled environment to confront fears and manage stress. If we apply this framework to understand motivation, we can see how each domain of play serves to fulfill different psychological needs of players, thereby motivating them to engage in various types of video games depending on their personality.

Other scholars have proposed taxonomies to understand players. For instance Yee and Ducheneaut's (2018) "Gamer Motivation Profile", acknowledge that gamers are driven by a complex set of desire and needs, while Nacke et al.'s (2014) "BrainHex," classified players into "archetypes" (such as *conqueror*, *socializer*, *survivor*, *mastermind* etc.) based on their neurological responses to game features: players are then categorized according to their dominant motivations, which have a neurological basis. All these studies contributed to the categorization of players' motivations based on inherent traits.

### **2.2.2 Current Perspectives on Player Types**

Traditional models in game studies have attempted to classify players into separated categories. However, this approach tends to oversimplify the complexity inherent in human behavior as players typically exhibit a mix of preferences and motivations, which cannot be neatly categorized into singular, mutually exclusive types. This insight is particularly highlighted in Hamari & Tuunanen (2014) meta-analysis, whose conclusions suggest that players represent a diverse spectrum with varied motivations, psychological traits, and experiences, all contributing to their unique behaviors in games. Rather than fitting into fixed categories, players often display characteristics from multiple typologies, pointing to a more fluid and nuanced spectrum of player motivations.

Tondello et al. (2017) critique existing models which rely on abstract gaming motivations and archetypes which, however, do not translate into design elements, to emphasize the relationship between game elements and player characteristics. In their empirical study, they suggest that players' preferences include different *playing styles*, that refer to how players engage with the game: they have a favored pace of play, desired level of challenge, and preferred social interactions. Essentially, the authors proposed that personal

motivations and personality traits, but also demographic factors such as gender and age, directly influence how players interact with game elements and other players. This work contributes to current literature by encouraging a more flexible understanding of players, instead of employing rigid categorizations.

### **2.2.3 Main Takeaways**

Video game player taxonomy, initially proposed by Bartle (1996), categorizes players into four types based on their motivations and behaviors. This framework, though simple, paved the way for more nuanced understandings of player psychology and motivations. Subsequent models expanded the exploration of player preferences., revealing the depth and diversity in player psychology, aligned with the fact that players cannot be confined to rigid categories reflecting a spectrum of motivations that is reflected in the game playing style. In the next section, an additional step forward is taken, by presenting the findings of a case study. This study sheds light on an often-overlooked variable in understanding player behavior: the role of “context.”

### 3. The Role of “Context” in Video Games: A Case Study

**Focus:** This section presents the results of a research conducted during the COVID-19 emergency. Its results contribute to the literature on the player interaction with video games and the value of video games for the individual.

**Keywords:** #CaseStudy, #Context, #Video Games

#### 3.1 Defining “Context” in Video games

In this section, I explore how recent studies are increasingly recognizing the dynamic interplay between players and their gaming environments.

A summary of the related works on the topic under investigation is offered in Table 6, while Section 3.1.2 delves into the existing gaps and opportunities for further research within this domain, setting the stage for the subsequent presentation of the case study.

*Table 6. Related works on the “context” in video games*

<b>Authors</b>	<b>Key focus</b>	<b>Findings</b>	<b>Implications</b>
Hamari & Tuunanen (2014)	Multifaceted nature of player motivations and behaviors	Previous studies lacked exploration of context’s role in shifting player types	Suggests the need for deeper investigation into how context influences player motivations over time.
Landers et al. (2019)	Influence of “situational context”	Argued that pre-existing characteristics affect how players interact with games, highlighting the impact of external factors	Emphasizes the dynamic nature of player experiences, shaped by personal circumstances and environment.
Gerhardt and Smith (2020); Rosegrant (2012); Guhde (2017); Patriarca et al. (2009); Ngai	Psychological/Psychanalytic perspectives and therapeutic potential of games	Explored the influence of players’ life histories, contexts, and PTSD on game interactions and behaviors. MMOs provided social spaces; narrative	Shows how personal history and situational context profoundly impact gaming experiences and preferences. Indicates therapeutic potential of

(2005); Carras et al. (2018)		games offered therapy for adolescents; first-person shooters helped veterans with PTSD	games in managing mental health and social skills.
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### 3.1.1 Related Works

Recent theories are adopting a more complex view of players and play, gradually moving away from rigid categorizations. The work by Hamari & Tuunanen (2014) presented in the previous section acknowledged the multifaceted nature of player motivations and behaviors, noting that players often exhibit different characteristics, suggesting a spectrum rather than fixed categories. However, in these conceptualizations relevant factors influencing players' experience and behavior seem to be overlooked: the role of the context and how such experience and behavior might change over time. In fact, Landers et al. (2019) argued that the player experience is influenced by the "situational context," defined as "*any pre-existing system-level characteristic that affects the success of a gameful system in inducing psychological changes*". This concept is pivotal, as the authors suggest that external factors influence how individuals interact with and respond to gameful systems. Player experiences have a dynamic nature, shaped by various factors including personal circumstances and the specific environment in which the game is played.

Further contributions on this topic have been made by researchers focusing on how players' life histories and contexts influence their general game interactions and behaviors. A segment of these studies has explored the close ties between the game world, in-game behavior, and the real world, adopting a psychological and psychoanalytic perspective of play (e.g., Gerhardt and Smith, 2020; Rosegrant, 2012; Guhde, 2017).

The context can greatly influence how people approach and experience video games. Factors such as socioeconomic conditions, life experiences, cultural and social context can play a crucial role in shaping interaction with ludic technologies. For instance, Patriarca et al. (2009) found that children with parents from a lower socio-economic background were more likely to spend more time at the computer. This might be due to the lack of access to alternative forms of entertainment and leisure activities, educational opportunities, or parental supervision differing across socio-economic groups. Another study (Ngai, 2005)

showed that cultural background influences players' preferences in narrative and gameplay. By comparing players from Japan and the US, the author found that there are nuanced distinctions in preferences related to gameplay and narrative elements among the two cultures. This could explain the varied success of certain video games across different global regions.

By contrast, other researchers investigated how different video games can affect players. For example, Carras et al. (2018) examined both the beneficial and the problematic uses of video games among veterans in treatment for PTSD-related disorders, finding that FPS games could serve as a coping mechanism. This specific type of game helped veterans control intrusive thoughts, aiding in psychological distancing from PTSD symptoms and stressors, effectively reframing the player's perspective. In a similar vein, Rosegrant (2012) analyzed the gaming habits of two patients in psychoanalytic treatment and highlighted how games with rich social environments, like MMOs, provided a safe space for individuals to practice social interactions, by creating a space where to get a second chance or even a "second life". Finally, Guhde (2017) focused on the therapeutic potential of video games in treating adolescents with behavioral issues, showing that narrative-driven games could act as a form of expressive therapy, by allowing players to project and work through their real-life conflicts and traumas in the virtual world. For instance, engaging with complex game characters and narratives allowed players to process and articulate emotions they might find difficult to express in their daily lives.

These studies underscore the profound impact that personal history and situational context can have on gaming experiences. They reveal how life experiences, such as trauma, social anxiety, or behavioral challenges, can shape the way individuals interact with game worlds, influencing their preferences and behaviors within these digital environments. Moreover, these research contributions suggest that understanding the psychological underpinnings of gaming behavior can be crucial for designing games that are not only engaging but also potentially therapeutic. This suggests that considering the player's background and current life situation could help develop more personalized gaming experiences that support mental health and well-being.

### **3.1.2 Opportunities for Research**

The studies explored so far, while insightful, present several gaps. For instance, previous studies do not fully explore the fluidity of player experience and behavior over time or the deep impact of different situational contexts on gaming experiences. Therefore, future research could benefit from longitudinal studies to track how players' interactions with games evolve over time, offering a more comprehensive understanding of these influences. There is also room to study how different contexts distinctly shape gaming experiences, starting from the social context, that is the player's interpersonal relationships and social settings, which can impact how they engage in multiplayer or collaborative aspects of games; or the "environmental" or physical context, the immediate surroundings where gaming occurs, which can affect immersion and focus.

To expand this perspective on the importance of considering life experiences in the interaction with technological device and enriching a psychological take on video games, I refer to a study conducted between 2020 and 2021 during the COVID-19 pandemic, with results published in journal papers (Boldi et al., 2022; Boldi & Rapp, 2023) and a book chapter (Boldi et al., 2024). The study offers a unique exploration into how global social conditions created by the pandemic impacted players' interactions with video games. This period, marked by widespread experiences of solitude, isolation, forced cohabitation, reduced freedom, and enforced sedentariness, provided a significant opportunity to observe how players were affected by these circumstances. It allowed for an in-depth analysis of how the players' context and condition influenced their use and perception of the value of video games, shedding light on the psychological aspects of gaming in response to life changes.

The next section reports on the study and its findings, aiming to contribute to psychological research on video games, particularly regarding the potential of video games to provide experiences that are not only therapeutic in improving well-being but also in facilitating emotional processing. It further aims to understand the role of context and design aspects in shaping these experiences.

## **3.2 Playing during the Pandemic: A Case Study**

This section presents an overview of research that has utilized gaming technologies during the COVID-19 pandemic. It details the methodologies employed and discusses their main findings, providing commentary on their significance. The outcomes of this study shed light on how players' preferences and behaviors in games are influenced and reshaped by the changing contexts in which they find themselves.

### **3.2.1 The COVID-19 Crisis and the Role of Gaming Technologies**

In recent years, the COVID-19 crisis, sparked by the spread of the SARS-CoV-2 virus, has profoundly impacted various facets of human life. This global public health emergency led to significant governmental measures worldwide aimed at its containment. These events disrupted individual and collective daily practices, alongside economic, international relations, and other human life aspects.

In this context, video games, often viewed with suspicion due to potential harmful effects from excessive or maladaptive use (King & Delfabbro, 2014), received more lenient views from institutional actors and public opinion during these unprecedented circumstances. The World Health Organization endorsed the #PlayApartTogether campaign, launched by the gaming industry to promote compliance with "stay-at-home" mandates (King et al. 2020). Global sales of video games surged during lockdowns (Broughton, 2020). This more positive perspective on video games lies in the scientific literature suggesting the positive role of play (Kleinman et al. 2021; Riva et al. 2020) and its impact on psychological well-being (Barr et al. 2022). Studies during the COVID-19 crisis focused on individual psychological factors that altered players' experiences during challenging life moments (Formosa et al. 2022; Ballou et al. 2022). However, these studies did not deeply explore the role of specific video games and genres in a crisis context.

This research, based on empirical data from an online survey distributed in Italy during the first lockdown, aims to add to this discussion. The data focus on their significance in the context of the crisis, referencing recent studies exploring the role of video games during difficult life moments. The primary objective was to outline new perspectives for studying the psychological significance of gaming in a crisis context.

### **3.2.2 Methods**

To investigate the role of video games during the COVID-19 lockdown, I conducted an extensive qualitative study, spanning from April 1, 2020, to May 3, 2020, a period that encompassed one month after the initiation of the Italian lockdown until the easing of the strictest measures.

#### *3.2.2.1 Participants*

The study comprised 330 players who were administered an online qualitative questionnaire. The demographic breakdown included 257 males, 69 females, and 4 nonbinary individuals, with ages ranging from eighteen to over sixty-five years. These participants were recruited through a multi-channel approach, which involved posting on several Italian gaming forums such as Everyeye, SpazioGames, and IGN Italia. Additionally, I leveraged social networks like Instagram and Facebook, and employed email outreach to reach potential participants. A snowball sampling technique was also utilized, encouraging participants to forward the survey link to their gaming acquaintances. This approach was especially effective in capturing the perspectives of casual gamers, who might have increased or decreased their gaming activity due to the lockdown. Informed consent was obtained from all participants, and they were briefed on the study's aims, the voluntary nature of their participation, and their right to withdraw at any time.

#### *3.2.2.2 Survey Design*

The questionnaire was designed to elicit both responses that could be analyzed in both quantitative and qualitative ways, combining closed and open-ended questions. This mixed-methods approach aimed to capture a comprehensive view of the participants' experiences. The survey questions were formulated to explore two primary areas that were gaming habits, where participants were asked to detail their gaming habits before and after the onset of the lockdown (e.g., time spent playing, the genres and types of games they engaged in, and any changes in their gaming preferences or intensity during the lockdown period); and the context of lockdown life, that is their material circumstances, social life, work-life, and other relevant aspects that might have influenced

their gaming behavior. This was vital in contextualizing their gaming experiences within the broader framework of their everyday lives during this unprecedented period.

3.2.2.3 Data Analysis

The responses were analyzed using thematic analysis (Braun & Clarke, 2006), a method well-suited to identifying, analyzing, and reporting patterns (themes) within data. Our thematic analysis of the survey data involved several key steps. We began by thoroughly reviewing all responses to understand the data’s depth and identify initial patterns; then, data segments relevant to our research questions were systematically coded, categorizing key features; codes were grouped into potential themes, each reflecting a significant aspect of the data; we then refined these themes for coherence and distinctness, ensuring they accurately represented the data; finally, each theme was clearly defined and named, capturing its core essence and relevance to our study. This qualitative analytical approach allowed us to interpret the data in a nuanced manner, shedding light on the subjective experiences and perceptions of the participants in relation to the crisis and their gaming activities.

3.2.3 Main Findings

This study revealed interesting insights into how video games were used during these mutated circumstances and their impact on players’ lives. Nearly all participants reported changes in their daily lives during the lockdown, affecting their experience of time and space, emotions, and social life. The findings are summarized in Table 7.

Table 7. *Playing during the pandemic: main findings*

Dimension	Main Findings	Implications	Side Effects
Time	Gaming structured daily routines and differentiated between work and leisure, provided goals that sped up the experience of time and made it more meaningful.	Shows how games can create a sense of normalcy and control over time during disruptions.	Potential disruption of temporal routines and perception of playing time as meaningless.

<b>Emotions</b>	Games were used for emotional regulation, offering relief from stress and anxiety, or enhanced emotional states through mental and physical stimulation.	Highlights the therapeutic potential of games in managing emotional well-being.	Emotional escape could lead to energy drain or exacerbation of negative feelings related to in-game events.
<b>Sociality</b>	Games added variety to interactions, enabled self-isolation, and facilitated safe sociality through social features.	Emphasizes the importance of games in fulfilling social needs and combating loneliness.	Social escape might harm household relationships; preserving these relationships could disrupt daily routines.
<b>Space</b>	Games provided virtual exploration and escape from physical confinement, offered reconnection with the pre-pandemic world and helped recover a sense of security.	Indicates the role of games in expanding the player's sense of space during physical lockdowns.	Increased sedentariness due to spatial escape into virtual environments.

### 3.2.3.1 Managing Temporal and Spatial Boundaries

Participants reported that playing video games influenced their perception of time and space during the lockdown. Video games helped participants navigate the temporal and spatial disruptions caused by the COVID-19 crisis.

Regarding time management, video games served as a tool to regain control over the new, disrupted daily routines. They helped delineate work and leisure time, making the passage of time feel easier and more meaningful. This was particularly evident when playing on consoles or PCs, as opposed to mobile devices, because these devices created a clearer separation between work and leisure, akin to the transition marked by commuting or leaving the workplace in pre-lockdown times; instead, casual games on mobile phones, often played during work hours, did not offer this clear demarcation. Video games offering open-ended worlds and therefore immersive experiences, such as *The Last of Us* (Naughty Dog, 2013) and *Death Stranding* (Kojima Productions, 2019), became a tool for many to

accelerate the passage of time during the day amidst the COVID-19 lockdown, while retro games reminded participants of lost “positive” periods of their lives, helping the retrieval of happy memories.

Regarding spatial aspects, video games provided a mental escape from the confines of home. Open-world or action-adventure games, which allow exploration, helped alleviate the claustrophobic feeling of being stuck at home. Simulations like *The Sims 3* (The Sims Studio, 2009) offered a virtual substitute for real-life locations that were inaccessible during lockdowns. Realistic virtual environments in games were found to evoke positive emotions and a sense of immersion, compensating for the inability to travel. Some participants preferred games that allowed them to shape the game world, such as sandbox games like *Minecraft* (Mojang Studios, 2011) and *Animal Crossing: New Horizons* (Nintendo EPD, 2020) as these games enable self-expression and a sense of freedom, offering an alternative to the real world’s limitations. However, prolonged isolation led to a decline in interest in these types of games, as participants became increasingly fatigued and depressed.

### 3.2.3.2 Rebalancing Emotional Life

During the lockdown, the role of video games shifted from primarily entertainment to a means of emotional regulation. Less than 9% of participants played games for fun, a significant decrease from pre-pandemic times, while over 70% used gaming to divert attention from stressful events, finding comfort and well-being in the activity. Certain games, especially those with elaborate storylines or routine-like tasks, were more effective in managing negative emotions and intrusive thoughts, as reported by 54.2% of participants. Role-playing games like the *Mass Effect* series (BioWare 2017) and strategy games like *Age of Empires* (Ensemble Studios 1997), provided immersive experiences that kept players’ minds engaged. The 45.1% of participants preferred strategy games that involved controlling nations or civilizations, which required planning and foresight, helping to alleviate anxiety. Other participants, especially those experiencing depressive states, chose games that enhanced emotions rather than comfort. Action or horror-themed games like *Doom* (Id Software 2016), or *Resident Evil 6* (Capcom 2016), provided intense experiences, contrasting the monotony of lockdown life. These games often elicited

emotions not typically associated with enjoyment but were appreciated for their ability to provoke self-reflection and diverse emotional experiences.

However, it is interesting to note that game preferences changed as the dynamic of the lockdown unfolded and routines were again affected by new regulations. Some players abandoned open-world games during prolonged lockdowns, attributing this to fatigue and decreased willingness to invest effort in these games. Such a case highlights the changing psychological needs of players in different stages of the lockdown. The observation regarding the decline in interest in open-world games during the COVID-19 lockdown is a unique phenomenon that has not have been captured in similar works on the same topic, such as the study by Kleinman et al. (2021), probably due to differences in time and context: their study was conducted when the most restrictive lockdown measures had already been eased in the United States, while our data were collected during a period of intense national lockdown in Italy.

### 3.2.3.3 *Reworking Social Life*

Video games played a significant role in rebalancing social life by offering an escape from isolation and the stress of household dynamics. While playing games was mostly a solitary activity, it helped mitigate the interpersonal conflicts arising from forced cohabitation. This behavior, often associated with problematic gaming, was reframed in this context as a deliberate choice for emotional well-being. Co-located gaming experiences like party games – for instance, *Just Dance* (Ubisoft 2019), or digital board games were not widely chosen, indicating a lack of interest in playing with household members. This could be due to varying tastes, different available times for playing, or the decline of shared gaming experiences due to socio-technological changes in video games or, again, a need to isolate from members of the household and problematic relationships.

On the other hand, online gaming provided a platform for players to maintain and enhance social connections. Some players used gaming to strengthen pre-existing relationships, substituting physical gatherings with virtual interactions. This was seen as a way to replicate social activities like meeting in a café or going to the movies. Others formed new friendships within online gaming communities. For instance, a participant who used to play games in person with her granddaughter had to adapt to playing online during the

lockdown due to family preferences. The study also highlights how interacting with non-player characters (NPCs) in games could restore a sense of community and contribute to game immersion and enjoyment. This reinforces previous research on the role of companions or NPCs in enhancing the gaming experience.

#### *3.2.4 Conclusion: The “Context” of The Player and Implications for Psychology*

The COVID-19 pandemic presented a unique and unprecedented context for studying player interactions with video games, transforming the environment in which daily routines and social interactions were disrupted, leading to a significant shift in how individuals engaged with video games. Our study delved into this phenomenon, examining the psychological underpinnings of players’ reliance on video games as a coping mechanism during this challenging time. The findings contribute to the understanding of the dynamic nature of player engagement and the profound impact of external circumstances on gaming experiences.

This research demonstrates that video games are far from being a static entertainment medium: they are dynamic platforms that interact with and are influenced by the players’ real-life situations. The findings not only enhance our understanding of the gaming experience during a global health crisis but also contribute to a more nuanced perception of gamers, moving beyond the traditional view of the gamer as an isolated entity, and repositioning them within a deeply connected and responsive relationship with worldly events. This perspective has relevant consequences.

From a theoretical point of view, this research challenges and revises the traditional perception of gamers as “detached from reality,” a view often characterized by their immersion in the virtual worlds of games. This conventional understanding, mirroring Huizinga’s (1955) concept of “play” as an activity separate from reality, is critically reevaluated in light of our findings. Gamers appear to be individuals profoundly influenced by their external environment and the events unfolding within the context. This redefinition of the gamer identity paves the way for future investigations, by emphasizing the need for an inclusive approach to studying gaming, one that appreciates the intricate relationship between individual psychology, gaming technology, and the overarching surrounding context. This perspective contributes to understanding gaming as a dynamic

and interactive experience that extends beyond the digital interface and is intricately interwoven with the fabric of everyday life.

Moreover, the study has significant implications for future research and development of games. Understanding the fluid nature of player engagement and the pivotal role of context can inform the development of video games that resonate more deeply with players' needs and current situations. Game designers can utilize this knowledge to craft experiences that are not only engaging but also responsive to the emotional and psychological states of players, potentially offering therapeutic benefits and supporting mental health and well-being. Future studies can delve deeper into how different contexts - ranging from immediate physical surroundings to broader socio-cultural environments, affect player behavior and gaming experiences. This can lead to a more nuanced understanding of the psychological underpinnings of gaming behavior and its implications for mental health and social interaction.

## **CHAPTER 2. EVOLUTION OF THE PLAYER EXPERIENCE. THE CASE OF MULTIPLAYER COMPETITIVE GAMES**

## Notes of the researcher

The chapter is based on my auto-ethnographic reflections concerning my experience in video game worlds as a passionate and lifelong gamer. In particular, I examined how the video game experience has become increasingly complex, blurring the boundaries between gaming and various other activities. Delving into the academic literature, I was able to explore the theme from a scientific viewpoint and read the contributions of those authors who have systematically explored this transformation of video games, the gaming industry, and consequently the experience of players. I had the opportunity to analyze this perspective and to summarize this literature in an organized manner by presenting two short papers at the Doctoral Consortium of two conferences: one was held at the 17th International Conference on the Foundations of Digital Games (FDG, 2022) in Athens - which has a typically humanistic tradition regarding video games, while the other one was at The Annual Symposium on Computer-Human Interaction in Play (CHIPLAY 2022), in Bremen, which has an HCI perspective.

## Introduction

Nowadays video games are not just platforms for entertainment but have evolved into intricate social arenas where players interact, collaborate, compete, learn, and engage with a wide range of social dynamics. Within these environments, players form robust communities that share values, norms, and patterns of behaviors, shaping and being shaped by the cultural system they are embedded within, transforming the gaming experiences. Such transformations are largely facilitated by the transformations of the game industry and the advent of multiplayer games.

With technological advancements, multiplayer games have expanded from local interactions to digital environments connecting players worldwide. This growth was further amplified during the early 2010s “casual revolution,” (Juul, 2010) where gaming became more accessible, and the COVID-19 pandemic, which saw a surge in online gaming demand (see Chapter 1). Today’s games are diverse, and their experiences are widely shared through platforms and streaming services.

The complexity of video games and the social experiences they offer signify a paradigm shift in gaming perception, both socially and individually. This shift is mirrored in gaming genres and experiences, resembling complex organizational structures. In contemporary research, multiplayer games are conceived as societal “microcosms” capable of creating virtual spaces that mirror real-world contexts. The resemblance of gaming environments to organizational structures has led scholars to apply organizational and social theories to online gaming groups. Several research investigated Esports teams' formation, leadership roles, and communication’s impact on team performance, as well as toxic behaviors like player exclusion, verbal abuse, and antisocial actions, negatively impacting the gaming experience.

In summary, video games have evolved into complex social platforms within which a wide range of human behaviors and dynamics unfold. This evolution affects both the gaming experience and our broader understanding of virtual spaces, organizations, and societies. This chapter will address the social and organizational dynamics occurring in multiplayer

games and examine the effects on the player experience. These themes are analyzed through a comprehensive examination of studies and literature on the subject.

## 1. Multiplayer Video Games as Complex Serious Experiences

**Focus:** This section provides an overview of multiplayer video games, beginning with a discussion of their key characteristics. I then examine how these games have evolved over time, focusing on how this evolution has impacted the player experience, thereby reflecting the ever-changing landscape of multiplayer gaming. Table 1 and Section 1.2.4 offer a summary of this section.

**Keywords:** #Multiplayer #Serious #PlayerExperience #Organization #Esports

*Table 1. Multiplayer games as complex serious experiences. A summary*

<b>Topic</b>	<b>Narrative Summary</b>	<b>Main contributions</b>
<b>The game “genre”: a central notion in game design</b>	The categorization of video games into genres underlines their diversity. Each genre, defined by unique design, aesthetics, and mechanics, offers distinct player experiences. However, the fluidity and blending of genres challenge the traditional understanding of these classifications.	Tavinor (2008); Heintz and Law (2015); Salen & Zimmerman (2004); Grimshaw et al. (2008); Aarseth (2004); Clarke et al. (2017)
<b>What are Multiplayer Video Games</b>	The category of “multiplayer” video games includes various genres, each unified by core mechanics such as real-time engagement, avatar representation, and communication tools. These foundational elements contribute to diverse gameplay experiences across cooperative, competitive, and hybrid formats.	Harviainen & Vesa (2016); Birk et al. (2016a); Wadley et al. (2015); Rapp (2018b); Vesa (2013)
<b>Prosocial Dynamics of Multiplayer Video</b>	In multiplayer video games both prosocial dynamics and “darker” social dynamics	Lenfesty & Morgan (2019); Wrangham (2021); Roschelle &

<p><b>Games and Dark Behaviors</b></p>	<p>can be observed. Prosocial behaviors in multiplayer online games include cooperation, collaboration, and communication. Darker dynamics include the impact of competitive environments on conflict, and cheating. Cheating emerges as an interesting and common phenomenon in multiplayer games.</p>	<p>Teasley (1995); Cramton (2001); Eby &amp; Dobbins (1997); Marlow et al. (2017); Vesa (2013); Troups Dugas et al. (2014); Freeman &amp; Wohn (2019); Tang et al. (2022); Leavitt et al. (2016); Xu et al. (2011); Goren (2019); De Simone (2013); Chesney et al. (2014); Hasler &amp; Koch (2004); Birk et al. (2016b); Zsila et al. (2022)</p>
<p><b>The evolution of Multiplayer Video Games</b></p>	<p>Reflecting deeper societal trends, multiplayer games now mirror complex social structures akin to real-world organizations. This shift from leisure to serious contexts is marked by the inclusion of intricate social networks and collaborative dynamics, resembling those in virtual workplaces.</p>	<p>Lukacs et al. (2009), Nardi (2010), Korsgaard et al. (2010), Taylor et al. (2015); Rapp (2018b; 2020); Yee (2006); Dibbell (2016); Lund (2014); Goggin (2011); Taylor et al. (2015); Stebbin (1970);</p>

## 1.1 Multiplayer Games: Characteristics and Typologies

Video games are broadly categorized by their respective “genres,” each defined by a unique combination of design elements, aesthetics, and gameplay mechanics, leading to diverse player experiences. Among these, multiplayer games stand out as a distinct category. Within this realm of multiplayer games, the genre of First-Person Shooters (FPS) is particularly notable for its popularity, capturing the interest of a wide audience across the gaming community.

The main takeaways of the section are reported in Section 1.1.3.

### 1.1.1 The Notion of Video Game “Genre”

Video games employ different technologies, design characteristics, experiences that are able to elicit and also “imaginaries”. If a “narratological” approach is employed to understand video games, these can be described according to a main theme or subject, much like it happens in books or film (Woods, 2004), while others lack a narrative element, such as Tetris (Tavinor, 2008). This diversity necessitates an understanding of the concept

of “game genre”. This refers to “*groups of games, differentiated based on one or more game characteristics*” (Heintz and Law, 2015, p. 177).

The notion of game genre offers an interpretive framework that sets expectations regarding a game’s style and mechanics and provides a structure for understanding and comparing video games. Video games can be classified in different genres, which are shaped by game design elements. For instance, aesthetics plays a significant role setting the tone and eliciting certain emotional responses (Hunicke et al., 2004): post-apocalyptic visuals might indicate a survival horror game, while bright, cartoonish visuals suggest a platform or puzzle game. Sound design and music also contribute to genre classification, with certain styles and motifs associated with specific genres: for instance, the use of exaggerated sounds can enhance players’ immersion in FPS (Grimshaw et al., 2008). Gameplay, describing the rules and mechanics of player interaction, is another critical factor. FPS games, characterized by a first-person perspective and combat mechanics, contrast with RPGs, where players assume character roles in a fictional setting, focusing on character development and narrative progression.

Classifying video games into genres is problematic (Aarseth, 2004; Clarke et al., 2017) since the concept of genre is imprecise in the context of video games. Attempting to provide a comprehensive description of all available genres is virtually impossible, given the frequent mixing of genres within games. Rather than a rigid category, the concept of genre in video games serves rather as a navigational tool, just as in other art forms, setting expectations and guidelines for audiences and designers. In this context, understanding video game genres is crucial for identifying desired experiences, meaning that a set of characteristics and effects on the player can be expected from players’ engaging with a certain game genre.

In subsequent sections, I will delve into the role of design features in shaping the player’s experience, with a focus on First-Person Shooters (FPS), which are central to this research.

### **1.1.2 Characteristics of Multiplayer Games**

Multiplayer games are a category of video games that allow two or more players to participate simultaneously in the game world. These games can be played across various platforms such as personal computers, consoles, mobile devices, and increasingly on online

platforms via the Internet. The design and mechanics of multiplayer games are a byproduct of the genre, platform, and specific game objectives. However, there are some common mechanics frequently encountered across different games. Drawing upon the insights of Elias et al. (2020), I describe the distinctive features of multiplayer games.

A defining characteristic of these games is the inclusion of *three or more players*, each navigating their own paths within the game's universe. Players are often represented by *avatars* or game characters, which act as their surrogates within this digital realm (Harviainen & Vesa, 2016). These avatars, frequently customizable, offer players a canvas for personalization and expression, an aspect that Birk et al. (2016a) have shown to be pivotal for fostering a connection with the avatar and enhancing game enjoyment. These avatars typically assume specific roles or classes, adding depth to the gameplay. Multiplayer games, when compared to their single or dual-player counterparts, introduce a complex landscape of interactions, strategies, and dynamics that make them complex and often unpredictable. The spectrum of player interaction, within these games, ranges from minimal to intensely strategic and collaborative: player interactions may lean towards *cooperative*, *competitive*, or a hybrid of both in *semi-cooperative* scenarios. Interestingly, semi-cooperative games present a blend where players both collaborate and compete, navigating through shared objectives with a competitive edge. *Communication* is another fundamental mechanic in collaborative systems (Wadley et al., 2015), such as multiplayer games. Whether through built-in chat systems, voice chat, or third-party communication software, the ability to communicate with other players is critical for coordination, strategy, and social interaction. The use and influence of voice chat, in particular, can greatly affect the social dynamics and player experiences in the game.

Despite the similarities between different types of multiplayer games, it is important to acknowledge the vast diversity within this realm which affects the variety of experiences and dynamics produced within it. There are different types of multiplayer games, but some of them are more popular than others.

*Massively Multiplayer Online Games (MMOs)* and their variant, *MMORPG (Massively Multiplayer Online Role-Playing Games)* have been incredibly popular for many years and have a massive fan base. For instance, *World of Warcraft* had over 12 million subscribers globally at its peak, in 2010 (Blizzard Entertainment, 2010). These games feature a vast

number of players interacting in a shared and persistent virtual environment, blurring the boundaries between the game and the real world. One fundamental characteristic of MMOs is their social structures, which can be incredibly complex: to reach objectives players gather in teams or guilds requiring effective communication, leadership, and coordination similar to traditional organizations (Rapp, 2018b; Rapp, 2020; Vesa, 2013).

Another key type of multiplayer game is constituted by FPS games, the most popular genre of games across the globe in 2023 across all age groups (Clement, 2024). Team-based multiplayer FPS games, like *Counter-Strike* (Valve Corporation, 2004) or *Overwatch* (Blizzard Entertainment, 2019), require cooperation and strategy. Teams often consist of players fulfilling different roles based on their chosen character's abilities, necessitating communication and coordination to effectively counter the opposing team's strategies. More recently, Massively Multiplayer Online First-Person Shooter (MMOFPS) games blend elements of MMOs with the high-intensity, skill-based gameplay of first-person shooter games, offering large-scale battles where hundreds of players may participate simultaneously. In summary, FPS games, with their unique blend of mechanics, spatial design, and immersive elements, provide rich, engaging experiences for players, thus offering an interesting yet "controlled" environment for studying group dynamics.

### **1.1.3 Main Takeaways**

In this section, I described the "video game genre" concept, highlighting how design, aesthetics, and gameplay mechanics distinctly shape these classifications. Focusing on "multiplayer games," I identified a spectrum of games unified by key features: real-time player interaction, avatar customization levels, and the pivotal role of communication. These elements contribute to a diverse gameplay environment, encompassing competitive, cooperative, and semi-cooperative dynamics, thereby unraveling the intricate interdependencies among players. First-Person Shooter (FPS) games are renowned not only for their popularity but also for providing a fertile ground for examining various social dynamics within the gaming community.

## 1.2 Social Dynamics in Multiplayer Games

The evolution of multiplayer video games into complex social arenas sets the stage for a deeper exploration of the social dynamics that underpin these digital communities. Research has focused on social dynamics occurring in video games, including both pro-social (such as cooperation, communication, and collaboration) and antisocial behaviors (such as cheating, egoistic behaviors, and toxicity).

### 1.2.1 Pro-social dynamics in Multiplayer Games

The realm of multiplayer online games presents a unique lens through which pro-social behaviors can be examined. By exploring key terms such as cooperation, collaboration, and communication, and their manifestations in online gaming scenarios, it will be explained how these elements contribute to the overall gaming experience.

#### 1.2.1.1 Key Terms: Communication, Cooperation, and Collaboration

*Cooperation* is an evolutionary trait which includes a range of prosocial and normative behaviors that are facilitated and promoted within human social contexts by a combination of psychological and cultural mechanisms, and it is facilitated within environments perceived as safe rather than governed by fear of punishment (Lenfesty & Morgan, 2019). The tendency to be cooperative and prosocial, also termed as “*groupishness*”, includes spontaneous help, conforming to group norms and moral codes, and sharing resources (Wrangham, 2021). Instead, *collaboration* is a “*coordinated, synchronous activity that is the result of a continued attempt to construct and maintain a shared conception of a problem*” (Roschelle & Teasley, 1995, p. 70). Collaboration extends beyond mere cooperation, necessitating a deeper level of engagement and interdependence among participants. *Communication*, on the other hand, refers to something more of the simple exchanging messages between individuals, to include a practice of creating and sharing meaning that shapes individual cognition, in other words, how the individual thinks and views the world (Whorf, 1964).

Despite their differences, there are important connections among these three notions. Research indicates that for enhanced team effectiveness, members within an organization should collaborate, cultivating a “*collectivistic orientation*”, prioritizing group-based work

and aligning individual goals with those of the group to benefit the team's performance: cooperation and subordination of personal achievements are essential (Eby & Dobbins, 1997). Moreover, effective collaboration requires a shared understanding or "mutual knowledge" which can be particularly challenging when teams are dispersed, as shown by Cramton (2001): these teams often face difficulties in communicating, accessing information, and interpreting the meaning of communications, highlighting the critical role of having efficient communication strategies in virtual teams. To address these challenges, Marlow et al. (2017) suggest focusing on effective communication to ensure that it facilitates virtual collaboration: for instance, virtual teams should prioritize communication quality over quantity and employ advanced communication technologies.

In sum, these studies collectively suggest that in virtual teams and organizations each element - cooperation, collaboration, and communication, can significantly promote positive team dynamics and effectiveness.

#### 1.2.1.2 Cooperation and Collaboration in Multiplayer Online Video Games

Cooperation represents a critical facet of multiplayer online games, being vital for collective problem-solving and the success of team-oriented objectives: team members must make joint efforts to collect resources, strategize, and overcome challenges together. Cooperative dynamics are particularly crucial in games that have complex mechanics and high degrees of interdependence among players. This is why the study of these prosocial dynamics has largely addressed certain genres of games such as Massively Multiplayer Online Role-Playing Games (MMORPGs) and cooperative First-Person Shooter (FPS) games, where interdependence among team members is a critical component of gameplay (Korsgaard, 2010).

*World of Warcraft*, for instance, showcases intricate cooperative dynamics, as it presents players with challenging tasks that require strategic planning, precise coordination, and effective communication to accomplish. *Raid groups* consist of multiple players with varied skills and abilities, working together to defeat powerful enemies, whose success requires extensive planning and cooperation, as each member of the team must understand their role and work effectively with others (Vesa, 2013). Similarly, cooperative FPS games like *Overwatch* or *Call of Duty* require players to work together, employing a variety of

characters with unique abilities in order to defeat the opposing team. In these games, players must not only master their character's skills but also learn how to effectively cooperate with their teammates. This might involve creating strategies on the fly, coordinating attacks, or supporting each other in critical moments. The cooperative dynamics in these games heavily rely on communication, due to the lack of physical presence (Freeman & Wohn, 2019).

#### *1.2.1.3 Communication in Multiplayer Online Video Games*

Communication is a core mechanic of cooperative multiplayer games (Toups Dugas et al., 2014), forming the bedrock of successful team play and shaping team strategies, decisions, and overall performance. As a matter of fact, these games, often played in dynamic and rapidly evolving virtual environments, necessitate swift and precise communication among team members to enable cooperative play, resource management, and strategic decision. To facilitate collaboration, players employ various forms of communication, including text chats, voice chats, and non-verbal communication tools such as pings or emotes.

In contemporary video games, voice chats play a pivotal role, especially in FPS games, where rapid response and precise timing are crucial, given that these games heavily rely on real-time verbal interaction to synchronize team actions. As observed by Tang et al. (2022), players utilize tactical verbal communications - also called "call-outs", that are brief, context-specific messages conveying important information of the game state, thus enabling better action coordination and rapid decision-making. Non-verbal communication tools, like pings and emotes, present another layer of complexity: for example, "pinging" a location on a game's map - marking a specific geographical point within the game map for teammates to notice, can alert them of a danger or an interesting area, facilitating strategic decision-making without interrupting the flow of gameplay or creating distraction (Leavitt et al., 2016). Players often develop their own methods of communication within the game's environment, such as using actions to convey complex strategies through emergent mechanics that are not explicitly designed by the game but arise from the situation (Toups Dugas et al., 2014), thus enabling richer communication beyond what traditional designed systems alone can provide.

#### *1.2.1.4 Main takeaways*

The interplay between cooperation, collaboration, and communication is crucial for enhancing the gaming experience of multiplayer video games, since players are required to work together and put the team's goals ahead of personal objectives and needs. Gaming teams are a particular case of dispersed teams, where effective communication is essential for developing a shared understanding of the situation but is often challenged by the lack of physical presence. To optimize team performance, players use various forms of verbal and non-verbal communication to facilitate rapid response and quick coordination, which enable players to make strategic decisions efficiently. These dynamics underscore the complexity of gaming platforms as sophisticated arenas for social interaction.

### **1.2.2 Dark behaviors in Multiplayer Video Games**

Despite the relevance that social interactions have for players, there is also a “dark” side to these dynamics. Research shows that players often face challenges, including rapid member turnover, conflict, and group dissolution, reflecting the dynamism and fluidity of their social structures. Toxic behaviors, victimization, and the potential psychological consequences for players are prevalent, with particular regard to gender dynamics. The presence of competitive dynamics further exacerbates the occurrence of negative behaviors in games.

#### *1.2.2.1 Defining Key Terms: Competition in Human Behavior*

Cooperative behaviors cannot be understood without reference to opposite dynamics of competition and disruptive behaviors, creating a duality of competition-cooperation in video games. This interplay is not surprising given human nature, which intertwines altruism and prosocial tendencies with egoistic and competitive drives. These group-oriented traits distinguish humans from other species and are pivotal to our evolutionary success (as documented by Tomasello, 2009; Wrangham, 2021). However, the way these tendencies manifest in human behavior and organizations varies widely.

A broad distinction can be done between *competitiveness* and *competition* in organizations. *Competitiveness* refers to a personal desire or drive to engage in situations where one must competition with others to succeed or perform better than others, whereas *competition* has a more negative nuance, referring to a situation where individuals or groups strive for the same limited resources or goal, such as status or recognition,

thereby creating a zero-sum scenario where the interest of one individual implies the failure of another (Swab & Johnson, 2018). When individuals compete, they engage in behaviors such as withholding information, refusing to coordinate actions, avoiding responsibilities, or actively undermining the efforts of others, with negative consequences for the team or organization. These competitive natural tendencies are intensified by power dynamics within organizations: for instance, when power is unevenly distributed, either concentrated in the hands of high-power individuals, individuals may exhibit more pronounced competitive behaviors in the attempt to acquire resources or status: this potentially precipitate into a conflict scenario which impairs the organization potential to achieve goals through collaboration (Greer et al., 2017).

In short, despite the need for cooperation to achieve collective goals, individuals are also driven by individual needs. In the next subsection, I will explore how such dynamics manifest in the gaming environment.

#### 1.2.2.2 *Competitive Behaviors in Multiplayer games*

Multiplayer video games foster an environment which fuels the competitive spirit of players adding an element of intensity that enhances their gaming experience. Competitiveness may direct players' motivation, incentivizing them to enhance their skills, craft innovative strategies, and aspire for higher rankings. However, as illustrated before, competition is a complex phenomenon having both positive and negative facets. As in other organizational contexts, a duality in people's behavior, shifting between prosocial and individualistic behaviors, is also observed within game environments (De Simone, 2013).

On the one hand, even in inherently competitive scenarios like those crafted by FPS games, players can form alliances, build friendships, and develop social norms that mitigate the negative effects of competition, making the gameplay more enjoyable (Xu et al., 2011). Yet, competition remains intrinsic to multiplayer games, including those that are ostensibly cooperative, such as PvE (Player versus Environment) games, where players collaborate against a common environmental challenge. As observed by Goren (2019) within the community of *World of Warcraft*, activities performed by high-level players that appear cooperative on the surface, are in fact driven by competitive motives. Game design,

incorporating tools to track and rank players' performance in real-time, may worsen such dynamics by highlighting discrepancies in the individual performance within the same team.

In extreme cases, video games can also be associated with antisocial actions, that are behaviors that are harmful to other players, provoking antisocial actions, hostility, deception, or exclusion. As competition escalates, players might resort to unsporting tactics, such as team killing (attacking and killing one's own team members) or cheating to secure a win, causing different responses in other players which might even increase aggression (Hahsler & Koch, 2004). An intriguing paradox is revealed by Chesney et al. (2014): despite the inherently cooperative nature of many multiplayer games, more skilled players often cooperate less in multiplayer games, indicating a complex interplay between individual skill levels and cooperative behavior. In addition to this, Birk et al. (2016b) highlighted that competition can lead to feelings of exclusion, particularly when players face repeated defeats or are unable to keep up with their peers: this can heighten hostile cognitions and further contribute to the cycle of antisocial behavior in games.

Antisocial and selfish behaviors can hinder cooperation, rupture team unity, and contribute to a toxic gaming environment. Toxic behaviors, such as hostility and aggression, can have serious consequences on players' mental well-being, with increased levels of anxiety and anger rumination (Zsila et al., 2022). For instance, an ultra-competitive atmosphere in games like *Counter-Strike* or *League of Legends* can sometimes lead to disruptive behavior, such as bullying, verbal abuse, or harassment, which can significantly affect the player's experience and overall game satisfaction. The impact of toxic behaviors is explored in the next subsection.

#### 1.2.2.3 Toxic Behaviors: Aggressivity and Cheating

In addition to the benefits provided by the participation to online gaming spaces, research has also consistently demonstrated that multiplayer games are infamous for their toxic communities, where harassment, hate and other disruptive behaviors can be observed (Mandryk et al., 2023). With the term "toxicity", the Anti-Defamation League (ADL, 2022) refers to different types of negative behaviors that involve both abusive communications (e.g., harassment, hate speech, verbal abuse) and disruptive behaviors, which violate the

rules and social norms of the space, like *cheating*, *griefing*, or *trolling*. Considering the fact that online gaming environments are increasingly popular among the young population, the study of toxic behaviors in multiplayer video games have been subject to widespread discussion and research in recent years.

Aggressivity represents a significant dimension of toxic behaviors, affecting not only the gameplay experience but also the social and emotional dynamics within these virtual environments (Zsila et al., 2022). Aggressive games often manifest in hostile interactions, both verbal and non-verbal, between players. It includes actions such as *griefing*, that is deliberately acting to cause detract other players' enjoyment of the game (Foo & Koivisto, 2004); *cyberbullying*, that is a form of aggressive behavior which includes taunting, insulting, threatening and harassing other individuals (Raskauskas and Stoltz, 2007); and *harassment*, which includes seeking to intimidate, coerce, or oppress another player in or outside of a game (ADL, 2020). As a result, a hostile environment can undermine cooperative gameplay. Although there are connections between violent video games and toxicity, no significant correlation has been found between violent video game exposure and increased aggressive behavior or hostile feelings (Ferguson et al., 2016; The American Psychological Association, 2020).

Cheating, that is a social practice involving the illegitimate use of third-party software that cracks the original game code (Blackburn et al., 2014) can be equally disruptive. By using cheats, players can obtain advantages that undermine the balance of the game and the fairness of competition, while ruining the fun of other players. While not directly linked to aggression, cheating can yet engender hostile reactions, further damaging the social fabric of the game. While such behaviors have been observed in casual play, competitive games might be particularly at risk. Moreover, cheating is a major concern for certain genres of game, such as MMOGs and FPS, probably due to the size of their social environments and the competitive nature of these games, encouraging players to seek easier methods to succeed. Current solutions to this problem, such as the use of crowdsourced governance systems - like those implemented in League of Legends, may help manage such behaviors by empowering the community itself to detect and mitigate cheating (Kou et al., 2017). However, despite these measures, cheating remains a pervasive challenge across various multiplayer environments.

#### **1.2.4 Main takeaways**

Multiplayer games, while fostering social interaction, also harbor a darker side. Here, competition and non-cooperation lead to conflict and toxic behaviors. Intense competition can enhance player engagement but also provoke hostility and exclusion, impacting both the gaming experience and community dynamics; toxic behaviors such as aggressivity and cheating, including harassment and unfair gameplay practices, significantly disrupt the gaming environment. This set of studies highlight the complex nature of these interactions.

### **1.3 Multiplayer Video Games as Serious Experiences**

As shown in the previous section, video games have evolved into socio-technological platforms that facilitate rich and nuanced social interactions, where players can collaborate, compete, learn, and engage in complex psychological and social behaviors. These behaviors often transcend the boundaries of mere “play” that extend well beyond traditional notions of “play.” This evolution marks a significant shift towards more profound and significant gaming experiences, challenging the conventional division between “work” and “play” in Western societies. In the realm of contemporary video games, individuals find themselves engaging in activities that blur the lines between playfulness, productivity, and leisure.

This section aims to delve deeper into these concepts, examining their impact on the player experience. The main takeaways of the section are reported in Section 1.3.3.

#### **1.3.1 Videogames as Serious Organizations**

Historically, games have primarily been regarded as sources of entertainment, separate from the daily grind, a concept deeply embedded in classical play theories (Huizinga, 1955; Caillois, 1959/2001). This conventional perspective, which views games as leisure activities distinct from “serious” pursuits, has been questioned by recent shifts in the gaming sector and play environments. In fact, the video game industry has experienced significant transformations, highlighted by a rise in the popularity of online multiplayer games (Grand View Research, 2020). This shift towards multiplayer formats, rather than solitary gaming experiences, combined with the extensive sharing of gaming moments via platforms and streaming services like Twitch, has promoted non-local interactions among players across

the expansive digital landscape. Consequently, gaming has evolved from straightforward, local interactions to intricate, online engagements intertwined with social media.

Scholars suggest that these transformations have caused video games to reflect real-world social frameworks, such as professional ecosystems (Lukacs et al., 2010). Specifically, the complex social networks found in multiplayer games mirror those in virtual organizations or teams, as both scenarios involve geographically dispersed members collaborating through digital tools, thus mirroring dynamics typical in remote work environments. A *virtual team* typically consists of individuals who collaborate from various locations, primarily using communication technology to pursue shared objectives (Hertel et al., 2005). Virtual organizations expand this idea, forming a networked, non-physical collective of varied entities, linked by digital communication and characterized by adaptable, fluid structures suited to a dynamic context (DeSanctis & Monge, 1999).

In recent times, the spheres of multiplayer gaming and virtual organizations have begun to converge, sharing several characteristics. This concept is supported by studies on multiplayer online games where team interdependence is crucial (Korsgaard et al., 2010). An example of this convergence is seen in the work of Nardi (2010), who explored the World of Warcraft gaming community. She demonstrated how the game is not only a form of entertainment but also a venue for exploring complex anthropological and social dynamics. Nardi observed that WoW includes aspects akin to professional environments, such as the management of guilds and raids, which resemble virtual organizations requiring strategic planning, resource management, and coordination to accomplish sophisticated, shared objectives - skills akin to those needed in professional settings. Further emphasizing this similarity, Vesa (2013) and Vesa et al. (2017) in their ethnographic study of World of Warcraft groups, analyzed the organizational dynamics within MMORPGs. They noted that raiding operations demand organizational competencies like effective leadership and teamwork, paralleling the functioning of teams in virtual organizations. More recently, Rapp (2018b) applied these findings to explore how insights from online gaming communities could enhance engagement and user experience in non-gaming online environments, such as educational and fitness platforms. This approach leverages the deep psychological engagement of players in WoW guilds to foster similarly engaging and supportive online communities.

### 1.3.2 Changes in Player Motivations: *Playbour* and *Serious Leisure*

The dynamic transformation of video games reflects a profound shift in player psychology, motivations, and subsequent behaviors of players who now delve into virtual worlds not solely for entertainment, but to satisfy a range of psychological needs and emotional experiences, shifting the emphasis away from mere fun and pleasure (Boldi et al., 2022; Bopp et al., 2016). Nowadays, gaming motivations have evolved to include complex elements such as competition, the aspiration for power, and the pursuit of status (Yee, 2006). This evolution in gaming dynamics has led to a perception of gameplay as akin to work activities: amateur players may set aside the pursuit of fun and perform boring or repetitive actions (e.g., farming) (Dibbell, 2016), to maximize progress towards in-game objectives. However, this may lead players, who in principle play “only for fun”, to perceive playing as a commitment, an obligation, or even a work (Yee, 2006): in fact, players prioritize goal achievement and in-game commitments, invest considerable time and effort in the game, have a strategic attitude towards gameplay, and may feel a responsibility towards team members.

In the attempt to articulate and describe modern digital interactions, scholars have created new terminologies and theories, challenging traditional views of play, making it converge more and more with notions of work (Lund, 2014).

A first relevant concept that encapsulates the intricate confluence of play and work in today’s digital age is that of *serious play*. *Serious play* refers to the activities that are imaginative and fun, but also contain some degree of structure and purpose, much like work: an example might be an architect using Lego bricks to create a model of a building they are designing. This notion aligns with Stebbins’ (1970) theory of *serious leisure*, which speaks to activities that demand substantial skill, knowledge, and experience, yet remain non-professional, non-work activities. However, in the digital context, the separation between non-professional and leisure activity becomes indistinct. The game *Papers, Please* - as explored by Moralde (2014) and Sicart (2019), embodies the concept of so-called “serious fun,” as this game requires players to take on the role of an immigration officer, deciding who gets in and who does not: the serious aspect lies in the exploration of moral dilemmas and other important themes, which is blended with a compelling gameplay capable of providing a fun experience. This role-playing activity, while undertaken in a

gaming context, involves ethical and moral decision-making similar to real-world professional contexts.

A second relevant concept which attempts to exemplify the confluence of play and work is that of *playbour* (or “play labor”), an amalgamation of the terms “play” and “labour” (Kücklich, 2005; Goggin, 2011). This concept underscores a growing trend where activities typically associated with recreation have transformed into potential avenues for the generation of profit, thereby blurring the boundary between the pursuit of professional activities and play. A significant manifestation of this phenomenon can be seen in the context of online multiplayer games. In *World of Warcraft*, players can participate in an activity called *gold farming*, where they spend hours accumulating in-game currency (“gold”), that can then be sold to other players in exchange for real-world money, thereby transforming what allegedly is a leisurely gaming activity into a form of labor. Gold farming is reminiscent of traditional employment as it entails repetitive tasks, strategic planning, and time commitment typically associated with conventional work, and is performed for earning income (Dibbell, 2016). A similar phenomenon can be observed in EVE online, where the relations of production within the game mirror those in real-world economies. As described by Taylor et al. (2015) the gameplay of EVE online feels more like running a business than participating in leisure activity, since players must commit with discipline in the game as it was a work-like activity, spending hours mining resources, trading commodities, and manipulating markets.

### **1.3.3 Main Takeaways**

This section presents a transformative view of video games, particularly multiplayer ones, as they increasingly mirror real-world organizations and work ecosystems. Classic theories that once defined games as mere leisure activities are challenged by their evolution into complex, work-like environments akin to serious virtual organizations. Such evolution of video games – and therefore the transformation of the notion of play, is coupled with a shift in player motivations, from simple entertainment to more complex goals: gaining status, recognition and even an economic profit, paving the way for a full-fledged professionalization of the activity.

## 2. The rise of Professional Play: Esports and Streaming

**Focus:** This section focuses on the emergence of Esports and the professionalization of the gaming activity. I first provide some key concepts that lay the foundation for the remainder of the section, by defining the term “Esports” and its different facets, in particular the intertwining with “streaming”. I then focus on First-Person Shooter games and explain their importance for competitive play.

**Keywords:** #Esports #Streaming #Esports athletes #Professional Play #FPS

*Table 2. The rise of professional play: Esports and streaming. A Summary*

Topic	Narrative Summary	Main contributions
<b>Esports and Professionalization</b>	The emergence of Esports signifies a pivotal shift in gaming culture. Esports represents organized, competitive play that extends to include a broader community of spectators, fans, and commentators. The fusion with streaming platforms has revolutionized the way these games are viewed and monetized, making Esports a global phenomenon.	Taylor T. L. (2012); Wohn & Freeman (2019); Taylor et al. (2015); Formosa et al. (2022b); Hamilton et al. (2014); Sjöblom and Hamari, (2017); Freeman & Wohn (2017); Wohn & Freeman (2019); Törhönen et al. (2019); Woodcock & Johnson (2019); Guo et al. (2024); Huang et al. (2017); Himmelstein et al. (2017); Beres et al. (2021)
<b>Playing in competitive FPS settings</b>	First-Person Shooter (FPS) games are prominent in the Esports landscape. The reason for their appeal is multifold: they provide an immersive gameplay, have design features (e.g., visual, audio) that attract a great audience, and foster complex social and organizational dynamics (for instance, team formation, decision-making processes, and communication strategies).	Mamerow (2023); Nacke & Lindley (2008); Rusk et al. (2024); Naweed et al. (2023); Bowey et al. (2015)

## **2.1 Key Concepts: Esports, Streaming, Competitive Play, Esports Players**

The transformation of multiplayer video games into platforms for serious, immersive experiences has paved the way for the rise of Esports. These organized competitions capitalize on the competitive spirit inherent in multiplayer games to transform it into a global phenomenon. Esports represents a significant paradigm shift in gaming, redefining gaming from a leisure activity to a professional pursuit. This change is underscored by the emergence of Esports athletes, a category of players that tell them apart from casual gamers. The intertwining of Esports with streaming platforms further amplifies its reach, transforming how these competitions are consumed and monetized.

The main takeaways of this section are reported in Section 2.1.5

### **2.1.1 Defining “Esports”**

The transformation of gaming into a more serious activity is epitomized by the rise of *electronic sports*, widely known as Esports. From its initial beginnings as a niche activity, Esports has evolved into a substantial cultural and economic phenomenon with significant professional stakes and recognition worldwide. However, a precise and universally accepted definition of Esports remains elusive due to its various complex dimensions and the myriad perspectives coming from different stakeholders in the field.

The pioneering work of Taylor T. L. (2012) and Taylor (2015) provided an in-depth perspective on the professional nature of Esports. Esports is defined as a “serious” activity with complex economies and distinct cultures, practices, and structures that mirror traditional sports. Esports players compete against one another in structured tournaments, leagues, and matches: the competitive nature of these events often comes with significant stakes, including financial prizes, career opportunities, and social recognition. Like traditional sports, professional Esports involve training rigorously, developing strategies, building, and managing teams, and competing in high-stakes tournaments that have substantial financial implications. However, unlike traditional sports, which are bound by physical locations, Esports is fundamentally digital, allowing players from different parts of the world to compete against each other and fans worldwide to engage with the Esports content.

The definition of Esports is not just restricted to the competitive aspects and the players involved but includes a social dimension, as Esports encompasses a broader community that includes not just the players but also spectators, fans, commentators, and sponsors (Taylor, 2015; Wohn & Freeman, 2019). This communal aspect of the activity contributes to the creation of an intricate social ecosystem around the games themselves. The rise of streaming platforms and social media has further amplified this, providing platforms for communities to form around Esports, thereby extending the reach of these digital games beyond the confines of the competition arenas.

Literature is rife with definitions which further complicate the understanding of Esports play. To provide orders in such definitions, Formosa et al. (2022b) have recently conducted a systematic review and thematic analysis of the definitions of Esports prevalent in academic literature and cultural discourse. They provided a definition of Esports, that is often characterized as an *“organized competitive digital gaming, played on a spectrum of professionalism—its organized and competitive aspects lead to elements often associated with, but not necessary for esports, including: spectators and fans; tournaments and leagues; training and skill development; and sponsorship, commercial partnerships, and prize money”* (p. 227:20). This definition means that Esports involves organized, competitive video gaming which is not restricted to a particular level of play, but spans both amateur and professional arenas, highlighting the inclusivity of Esports in terms of player participation. The competitive aspect of Esports is a distinguishing feature that sets it apart from casual or solitary gaming. Unlike these forms of gaming, where the primary focus might be personal entertainment or skill development, Esports places competition at the forefront.

### **2.1.2 Esports and Streaming**

Esports is interconnected in numerous ways to streaming platforms, such as Twitch and YouTube, which have become primary avenues for Esports fans to watch tournaments and matches (Hamilton et al., 2014). These platforms allow fans from all over the world to tune in and watch their favorite teams or players compete in real-time. Moreover, the interactive nature of streaming platforms fosters a sense of community among viewers, who can interact with each other and sometimes even with the players or teams they are watching through live chats: in fact, the enjoyment related to socializing with other people on such platforms is considered a great motivation in watching Esports (Hamilton et al., 2014;

Sjöblom and Hamari, 2017). The live streaming of Esports competitions has also transformed the way these events are run and monetized, opening up new revenue streams for tournament organizers, teams, and players through advertising, sponsorship deals, and fan donations.

The spectatorship of Esports through dedicated platforms such as Twitch and YouTube Gaming is far from being a passive experience: instead, it offers a dynamic interaction between players, streamers, commentators, and fans, thus creating a rich participatory culture that enriches the experience of the game (Taylor, 2012). Esports are not a niche activity anymore, as the practice of streaming has “democratized” the way players engage in Esports, as virtually everyone can broadcast their gameplay, thus facilitating the creation and proliferation of content online and broadening the Esports ecosystem (Wohn & Freeman, 2019; Taylor, 2012). The engagement is further enhanced by the presence of design features, such as chats, that encourage a more active participation of viewers, or subscriber-only chat to allow the creation of an intimate community engagement even when there are large streams: these interactive platforms allow for the creation of “third places” where viewers congregate not just to consume content but are part of the creation process (Hamilton et al., 2014).

The symbiotic relationship between Esports and streaming has consequences for the financial aspects of Esports. Both professional and non-professional Esports players can use these platforms for self-promotion, streaming their game sessions to demonstrate their skills to fans and potential sponsors, but also monetize their gameplay outside tournament winnings. Financial transactions can occur through sponsor advertisements by major brands and fan donations. Fans can use subscriptions, make donations, or purchase digital currencies called “bits” to “cheer” players during live streams (Wohn & Freeman, 2020).

### **2.1.3 Defining Competitive Esports Games**

As highlighted by Formosa et al. (2022b), the central component of Esports is organized, competitive video gaming, often structured in formats akin to traditional sports tournaments. However, not all games that are competitive (where players or teams compete against each other to win) qualify as Esports. Drawing from literature, we can

define a set of criteria that distinguishes competitive Esports games from those who cannot be played in such a way.

For a game to be recognized as part of this domain, it must meet certain criteria, including game mechanics, the opportunity for skill mastery, the popularity, and its suitability for spectatorship (Freeman & Wohn, 2017; Khromov et al., 2019; Taylor, 2015; Taylor, 2009; Seo & Jung, 2016).

First, Esports games allow a high degree of strategic play and require skill mastery: this means that, differently from playing casual games, Esports players need to employ strategic thinking, teamwork, and quick decision-making, to play - factors that contribute to the allure of watching and competing in Esports. Esports games are generally accessible to a wide range of players, easy to learn and do not require expensive hardware or software, yet they maintain a high skill ceiling, pushing players to continuously improve their skills and become better at the game. Second, community-engagement and popularity of the game are crucial to build a substantial player base and an active audience that participate in fandom activities (e.g., content creation, attendance at live game events etc.). To this aim, the design of Esports games should promote an enjoyable and visually engaging experience, including elements to drama and suspense - similarly to what happens with traditional sports, to capture viewers. Finally, the ecosystem must be economically sustainable to support all the figures, such as players, teams, organizers, commentators, that are part of it. The presence of economic revenues also allows the presence of system regulatory bodies that supervise the system, regulate, and organize the Esports activities: their role is to ensure standardized rules are applied during competitions to maintain the fairness of the activity.

#### **2.1.4 Esports Players: Definition and Main Characteristics**

*Definition of Esports Players.* People who play for competition, often termed as *Esports athletes* or *Esports players*, represent a distinct category of individuals who participate in organized, competitive video gaming (Formosa et al., 2022b), dedicating substantial time and effort to skill development, facing stressors similar to those in conventional sports (Beres et al., 2021; Kou & Gui, 2020; Smith et al., 2019). The activity of an Esports player is not confined to competition only, to also include the creation of online content and

streaming (Wohn & Freeman, 2019). As scholars noted (Törhönen et al., 2019; Woodcock & Johnson, 2019) players in the Esports domain must adopt a mindset akin to laborers, investing time and resources in the activity, focusing on skill development to master the game or engage in emotional “labor” to attract the audience if they want to turn their passion into a viable career.

*Motivation to Esports.* Esports athletes play at both amateur and professional levels, competing in structured tournaments, leagues, and matches akin to traditional sports. Some studies (Garcia-Lanzo & Chamarro, 2018; Giakoni-Ramírez et al., 2022; Guo et al., 2024) focused on the reasons why players engage in Esports, concluding that this drive springs from both intrinsic passion for gaming and the need to meet basic psychological needs, but also extrinsic rewards: players engage in Esports for feeling in control, gain mastery in the game, and having a sense of communion with others, for the joy of gameplay and getting a personal satisfaction, but also for getting extrinsic rewards, such as fame and career advancement. Moreover, according to Guo et al. (2024), engaging in Esports can have a positive impact on personal development, as players have the opportunity to enhance their problem-solving skills and strategic thinking, learn teamwork, develop mental resilience - all of which can be beneficial in their lives beyond gaming.

*Characteristics of Esports Players.* Literature highlights that Esports players have a high level of skill and expertise in specific video games, which is cultivated through intense practice and habituation to gameplay, paralleling athletes in traditional sports (Huang et al., 2017). Such expertise, which includes strategic gameplay and rapid decision-making under pressure, necessitates continual adaptation to evolve as the game design and rules change, thus pushing players to constantly refine their skills. In these demanding conditions, successful competitive players must develop mental skills such as resilience and the ability to cope with pressure, also cultivating a “growth mindset”: in other words, a positive attitude towards the game, and focus, to provide optimal performance (Himmelstein et al., 2017). Additional research exploring the psychological experiences of play indicates that playing video games can induce significant stress and trigger intense physiological responses, such as elevated heart rates during gameplay (Valladão et al., 2020). However, it appears that professional players generally display greater ability to manage stress due

to their “mental toughness,” that is a set of attributes that facilitate coping with difficult situations, despite the pressure (Poulus et al., 2020).

*Inconsistent Definition.* In the realm of research focused on Esports and its participants, there exists a notable variation in the criteria used to define participant samples. In these studies, often participants’ background is different as it ranges from participants in national teams (Smith et al., 2019), student groups (Blom et al., 2019), to those engaging primarily in online or local competitions (Behnke et al., 2020; Himmelstein et al., 2017). Such variation complicates the comparison of results across studies. Further complicating the matter are the ambiguities in participant selection criteria, including variations in metrics for determining eligibility (e.g., hours played per week by Valladão et al., 2020, versus self-reported professional experience by Beres et al., 2021). This inconsistency, coupled with the tendency towards small sample sizes in many studies (Himmelstein et al., 2017; Kou & Gui, 2020), hampers the ability to generalize findings across the broader Esports landscape.

### **2.1.5 Main Takeaways**

This section highlights the transformation of gaming into a professional domain, primarily through the emergence of organized competitive gaming, known as “Esports,” and its integration with the proliferation of online gaming platforms and intertwinement with streaming practices. Competitive games, characterized by their intricate mechanics and the requirement for skill mastery, owe their popularity to the captivating experience and the rich social interactions within the gaming community they offer. Consequently, Esports players stand out due to their high gaming and mental abilities, characteristics that set them apart from casual gamers, underscoring the uniqueness of the Esports experience.

## **2.2 Playing in Competitive FPS Settings**

Within the Esports arena, certain genres stand out, with First-Person Shooter (FPS) games holding a privileged position. These games have risen to prominence in the competitive gaming domain, attracting a large audience with their immersive gameplay and strategic depth. Due to their immense popularity within the competitive realm, it can be stated that FPS have shaped the Esports ecosystem, promoting interesting social dynamics.

The main takeaways are summarized in Section 2.2.4.

### **2.2.1 The Popularity of First-Person Shooters**

Nowadays, FPS dominate the gaming landscape. A global survey spanning participants aged 16 to 64 identified shooters as the most favored genre across various age groups (Clement, 2022). Popular esports games include MOBA games such as *League of Legends* and *Dota 2*, as well as FPS games such as *Counter-Strike: Global Offensive*, and *Overwatch* (Ludwig et al., 2021). In 2023, the first 10 Esports titles sorted by peak viewers include six FPS titles (Esports charts, 2023), while the remaining are either MOBA games (n = 2) and racing games (n = 1). However, looking at the ranking, in terms of prize pool, the first six games of the list are all FPS games (e.g., *Dota 2*, *CS: GO*, *Call of Duty* etc.) (Esports charts, 2023). The popularity of FPS games among Esports might be explained with a range of different factors.

According to Mamerow (2023) there are several reasons for the popularity of these games: the immersive visual and audio atmosphere able to attract players, coupled with the intuitive gameplay that welcome beginners, yet it presents a challenging experience for players who want to master the game and get additional emotional rewards. Additionally, their game design characteristics make FPS a spectator-friendly activity. As explained by Bowey et al. (2015), the integration of leaderboards effectively fosters a sense of competition among players: changing a player position on the leaderboard can enhance intrinsic motivations factors (such as competence, autonomy), thereby creating a sense of success or failure in the player. This simple design characteristic can then be a psychological factor for engaging players and fostering their connection to the game.

### **2.2.2 Characteristics of First-Person Shooters**

The design of FPS games encompasses several key elements, each contributing to the overall player experience.

As explained by Nacke & Lindley (2008), who explored the player experience of an FPS game, these types of games put players into the virtual “boots” of protagonists, from where they experience the game world through a first-person perspective, therefore removing the presence of the avatar. This design feature is particularly effective in promoting a sense of presence and identification with the game character, enhancing emotional involvement and immersion. Being armed with some form of weaponry, players

can aim and shoot at enemies, and manipulate the game environment (for instance, opening boxes, picking up items, activating switches, or opening doors).

Player experience and enjoyment of these games is enhanced by level design in FPS games, that concerns the structure and layout of environments. Their design influences players' navigation through the gaming arena and their engagement with the game: for instance, the presence of sniper locations, or the placement of strategic resources such as ammunition, are capable of altering the emotional and psychological experience of the game (Hullett, 2012). Finally, FPS games also often feature progression systems, such as leveling up or acquiring new weapons, which can foster a sense of achievement and growth. All these elements contribute to evoking a broad range of emotions, creating a rich and engaging player experience which can attract both players and audience, thus contributing to the popularity of the genre among Esports.

### **2.2.3 Social and Organizational Dynamics in FPS Competitive Play**

The social dynamics of First-Person Shooter (FPS) games in Esports and competitive gaming environments are multifaceted, reflecting intricate interactions among players that extend beyond mere gameplay. For instance, Rusk et al. (2024) applied an ethnomethodological conversation analysis to explore the strategic use of “callouts,” that are concise, game-specific terms used by players to convey vital information, such as enemy positions or team movements, and build a shared awareness among dispersed team members. The authors found that these callouts are crucial in the organization of team activities, decision-making processes, and coordination, thus highlighting the level of sophistication of social and organizational dynamics that can be observed in such environments.

Further exploration into this realm by Freeman & Wohn (2019) focused on the process of team formation in FPS by conducting 26 qualitative interviews to Esports players, asking about the way players identify potential teammates, and the strategies used to coordinate their activities. Their findings reveal that players employ a blend of online and offline strategies, evaluate not only game skills but also social and personal attributes: in line with Rusk et al. (2024), it appears that successful team dynamics do not depend upon a mere

combination of individual talents, but rather involve matching personalities, fostering team chemistry, and ensuring effective communication among teammates.

However, while social interaction and cooperation are generally positive experiences for players, instances of anti-social behavior, such as unsportsmanlike conduct, aggression, and cheating are also present in these environments. In an experimental study, Chesney et al. (2014) conducted a study involving a “duck shoot” game set in a virtual world, discovering that players with higher skill levels displayed less cooperative behavior compared to their less skilled counterparts – suggesting that higher skills do not necessarily equate to enhanced teamwork abilities. Instead, Naweed et al. (2023) conducted a multi-method research approach, using structured observations of gameplay and spectator reactions, as well as interviews with players within the Esports community of CS: GO, to explore the concept of “(e-)sportsmanship”. The authors found that a good conduct encompasses not only adherence to written rules but also to these unwritten norms shared among different actors. In a nutshell, what is an acceptable behavior or not within FPS competitive games is a concept which is socially constructed among game developers, players, spectators, and implicit standards built within the community itself.

#### **2.2.4 Main Takeaways**

First-Person Shooters (FPS) are particularly relevant for Esports play due to their popularity and ability to attract a large and engaged audience. Specifically, the design characteristics of FPS games are responsible for the sense of immersion and presence that they can convey in both players and spectators. However, FPS games hold a potential for the study of social and organizational dynamics within the Esports context: while these games require players to communicate, cooperate and foster positive dynamics among players, unsportsmanlike behaviors are also common. When played competitively, these games can also entail antisocial behaviors that can detract from the player’s experience.

### **3. Opportunities for Research**

As video games have evolved into complex social arenas, researchers have investigated the intricate dynamics within these virtual spaces, focusing on multiplayer modes and their

impact on player experiences. However, there are still opportunities for better understanding the experience of playing FPS multiplayer games, both in the context of casual play and in Esports. This final section summarizes the limitations of previous studies and crafts the research questions I aim to investigate through this research.

### 3.1 Limitations of Previous Studies

Reflecting on the detailed exploration of multiplayer competitive games, it becomes evident that while considerable progress has been made, significant gaps remain in our understanding of the nuanced experiences of gamers, especially when distinguishing between casual and Esports players. This distinction, critical for comprehending the complex dynamics of modern gaming, has been obscured by several limitations in existing research.

- **Ambiguous definition of “Esports athletes”.** First, the field suffers from an inconsistent definition of key player categories, particularly regarding who qualifies as an Esports player. This variance in defining participant samples - ranging from engagement metrics to self-declared status, undermines the clarity and applicability of research findings, suggesting a need for a standardized approach to player categorization. The same issue has been highlighted by Bubna et al. (2023) who noted that the terminology surrounding “Esports players” lacks uniformity, making it challenging to categorize these individuals and classify their expertise, calling for a more uniform definition to improve the clarity and utility of research that would facilitate comparison between studies and drawing broader conclusions.
- **Neglected focus on FPS genres.** Second, despite the surge in popularity of Battle Royale FPS games in formats like Fortnite, Apex Legends, and *Call of Duty: Warzone*, studies have predominantly focused on MMOs and MMORPGs like *World of Warcraft*. This oversight neglects the distinct social and organizational dynamics inherent to FPS genres, warranting targeted research to fill this void. A more balanced research agenda that includes FPS genres would help fill this gap, shedding light on the distinct competitive structures and social interactions within these games.

- **Impact of professionalization of gaming.** Lastly, while the blend of gaming with aspects of work has been acknowledged by research, its detailed impact on both Esports and casual players is yet to be fully unraveled. This includes understanding how the emergence of the Esports culture and the transformation of games into potential career avenues, impact the community of players, their perceptions of gaming, their behavior, and the social dynamics. A focused examination of these aspects could enrich our understanding of how gaming as both “play” and “profession” shapes the experiences of its diverse community of participants.

### 3.2 Research Questions

This study focuses on deepening our comprehension of player experiences in an FPS game, highlighting differences and similarities among player types, that are casual and Esports players, through a digital (auto)ethnography. This approach allows for immersive participation within gaming communities, fostering strong connections with players, and offering a blend of theoretical and methodological frameworks tailored to the study’s objectives. Moreover, ethnography’s strength lies in its capacity for longitudinal observation, capturing the evolution of player experiences and interactions over time. A concise overview of the research questions is presented in Table 3.

*Table 3. Overview of research questions*

Research Question (RQ)	Focus Area	Objective
<b>RQ1: Socialization, Learning, and Community Engagement</b>	Exploring how casual gamers experience socialization, learning, and communication within Warzone.	To understand the effects of these processes on the broader dynamics of the game’s community and gameplay experience.
<b>RQ2: Organizational Dynamics and Decision-Making in Teams</b>	Investigating the organizational dynamics within Warzone teams, including power dynamics, decision-making, and conflict resolution.	To lay the groundwork for understanding team dynamics, especially among casual players, and setting the stage for comparison with Esports players.
<b>RQ3: Communication Styles and Strategies</b>	Comparing the communication styles and strategies of casuals versus Esports players in Warzone.	To uncover the impact of communication differences on team dynamics and gameplay

		effectiveness, highlighting the depth of social and organizational dynamics.
<b>RQ4: The Exploration of Dark Behaviors: Cheating</b>	Examining how casual and Esports players perceive, evaluate, and react to cheating and other antisocial behaviors.	To explore how engagement with the game as a profession versus a pastime influences players' perspectives and responses to cheating, and its impact on the community dynamics.

### **3.2.1 First Research Question. Socialization, Learning, and Community Engagement in Warzone**

**RQ1.** *How are the processes of socialization, learning, and communication experienced by casual gamers within Warzone?*

This question examines the core aspects of gaming communities: socialization, learning, and community engagement among players within Warzone and the consequent effects on gameplay experience. The investigation seeks to illuminate the social landscape of Warzone, exploring player interactions and their impact on game dynamics. Such insights are crucial for enhancing the understanding of the experiences within a complex gaming landscape.

Recognizing that all Esports players begin as casual gamers and share the same community, the analysis will predominantly view the world of Warzone through the lens of casual gamers. I will conduct direct observations of in-game interactions to capture real-time examples of social engagement of players within the community. Reflections on my own journey within the Warzone community will offer insights into the dynamics of community engagement from the perspective of a newcomer evolving into a more integrated member. Interviews with casual players will allow me to capture players' subjective accounts of their experiences.

### **3.2.2 Second Research Question. Organizational Dynamics and Decision-Making in Teams**

**RQ2.** *What kind of organizational and team dynamics occur within Warzone?*

This research question dives into the organizational fabric of Warzone gameplay, emphasizing the importance of understanding how team dynamics operate differently across player types. Beyond the basics of coordination, collaboration, and communication, I aim to explore deeper aspects of team interaction, such as power dynamics, decision-making, and conflicts, crucial elements for understanding organizational dynamics within the game.

Given the relative ease of access to casual players and the more transparent nature of their gameplay interactions, to answer this question, I will initially focus on casual gameplay to lay the groundwork for understanding Warzone's team dynamics. This exploration sets the stage for comparisons with the more structured and possibly nuanced dynamics observed among Esports players.

### **3.2.3 Third Research Question. Communication Styles and Strategies**

**RQ3:** *How do Warzone players communicate? How do casual and Esports players' communication styles and strategies differ, and what impact do these differences have on the player experience?*

This question seeks to describe the varied ways players communicate within Warzone, recognizing that communication is pivotal in organizing gameplay and facilitating team dynamics. By comparing the communication methods of casual versus Esports players, I aim to uncover the depths of social and organizational dynamics at play. Esports players, due to their competitive engagement, are likely to adopt more sophisticated and structured forms of communication, mirroring the high stakes of their gameplay environment. The examination of communication patterns serves a dual purpose: it does not only highlight the divergent strategies between casual and Esports players but also provides a window into the Esports players' organizational dynamics that remain elusive to direct observation.

I will employ an analytical approach to examine communication patterns during gameplay, leveraging the accessibility of recorded Esports matches on online platforms and collaborating with casual players willing to share their gaming sessions. This dual perspective enables a direct comparison, highlighting the differences in communication that potentially affect team cohesion, strategy execution, and overall game success.

### **3.2.4 Fourth Research Question. The Exploration of Dark Behaviors: Cheating**

**RQ4:** *How do casual and Esports players in Warzone perceive, evaluate, and react to antisocial behaviors, notably cheating? Do their perspectives diverge based on their engagement with the game as a profession (Esports) versus a pastime (casual play)?*

This research question aims to explore the complex issue of antisocial behaviors within the Warzone community, with a focus on cheating as a case study. The goal is to understand how these behaviors are integrated into the gaming experience, offering a contrast to the positive aspects of community engagement discussed earlier. The focus here is on the distinctions between casual and Esports players in their perceptions, evaluations, and responses to cheating, hypothesizing that the context in which players engage with the game significantly influences their stance on such issues.

The premise of this investigation is that the impact of cheating - and the motivations to take part in or confront such behaviors, may vary substantially between players who participate for leisure and others who view gaming as a more serious or even professional endeavor.

### **3.2.5 Main Takeaways**

This study ventures into Warzone's FPS realm, addressing gaps in player experience research between casual and Esports participants. Key limitations of current research include inconsistent definitions of "Esports athletes" and a lack of focus on FPS games, despite their popularity and rich, distinct dynamics.

The research questions that guide this study aim to provide a detailed description of the Warzone community, including its socialization dynamics and community engagement, setting the stage for a fine-grained comparison between casual and Esports players. This comparison is made specifically through the analysis of their in-game communications and responses to cheating. By conducting a digital ethnography, the final goal is to understand how transformations affecting video games have shaped players' psychological and social experiences.

## **CHAPTER 3. ETHNOGRAPHY: ILLUSTRATION OF THE GAMING SETTING AND METHODOLOGY**

# 1. Position Statement of The Ethnographic Experience

The primary objective of this study is to analyze the gaming experience of players in *Warzone*, a renowned first-person shooter in the *Call of Duty* franchise. I sought to explore the similarities and differences between casual and Esports players, a category including individuals who play tournaments and streamers, both in an amateur and professional way. I aimed to understand their interaction within a gaming context that has evolved significantly over time. My initial hypothesis guiding the study is that the emergence of new player types, the increasing importance of streaming platforms, and the professionalization of gaming had transformed both the game's experience and the psychological and social dynamics unfolding within the game, necessitating new conceptual tools for proper understanding.

To achieve this goal, I conducted a virtual ethnography of the game of the Italian *Warzone* community, adopting an *autoethnographic* approach, as it is common in digital gaming ethnographies (Tedlock, 1991), thus becoming an active player of the community. I assumed that having firsthand gameplay experience would favor my understanding of the social dynamics. Having personal gaming experience facilitated my interaction with players, indeed: for instance, I was able to ask more targeted and context-sensitive interview questions and use my own experience of the game to prompt critical reflection among participants.

Understanding the game's characteristics was crucial for the ethnography, and the decisions made during the study were closely linked to its design. *Warzone* is a Multiplayer Online Battle Royale game, a sub-genre of shooting games (Ohno, 2022) that blends elements of combat, survival, and resource collections; it was published in 2020 by Activision as a free-to-play game (i.e., it does not require any payments) and developed for several gaming platforms. These characteristics make *Warzone* highly accessible, attracting a broad spectrum of players. This inclusivity allowed me to engage with a diverse range of participants, extending the study beyond just a niche group of avid gamers devoted to the FPS genre.

Moreover, the game operates on a seasonal basis, each season introducing changes to game modes, weapons, skins, operators, and sometimes significant changes to the map: these updates often shift the *meta*, or the “optimal strategy”, in terms of which weapons or tactics are most effective in a certain moment. This dynamic scenario heightens the gameplay experience, keeping players engaged but also poses distinct challenges to research. The decision to replace the main map (*Verdansk*) with a new game environment (*Caldera*) on December 8, 2021, was a significant turning point of the ethnographic experience, as this sudden change allowed me to capture interesting emotional reactions from players: I realized how *Verdansk* had become an affection-laden virtual place for many players during the pandemic, as they spent significant time there and developed new social bonds. Furthermore, I was able to observe players’ adaptation to the new environment and capture their learning process as they navigated unfamiliar terrains.

However, the constantly changing landscape of the game also presented a risk. From March 10, 2020, to November 16, 2022, twelve seasons apported changes to the game. Conducting ethnography in such a dynamic scenario raised questions about the consistency and rigor of data collection, a challenge that I needed to acknowledge and address in my approach. Consequently, I decided to focus my ethnography on the standard Battle Royale mode, but I also played another mode of the game, that is Resurgence mode, as it was very popular in the community and it allowed me to get to know the game, train my skills, and socialize with other players.

The complexity of the subject required a perspective capable of interpreting social dynamics within gaming groups and online platforms such as Twitch, Facebook, and YouTube. Thanks to the ethnography’s flexibility, I managed to navigate this intricate reality, employing research techniques such as interviews, observations, and web content analysis. Some of these techniques, such as interviews and participatory observation, allowed me to understand the individual player’s experience more closely, while others, such as content analysis and non-participatory observation of gaming sessions, brought me closer to the cultural aspects of gaming and the culture of Esports and streaming. I adapted these methods based on my objectives and knowledge of the gaming world, finding some more valuable in different phases of ethnography.

My main ethnographic actions included active participation in gaming sessions, Twitch and YouTube channels of Italian Esports players (e.g., interaction with other players and the streamer in chat, observation of gaming sessions recorded in public matches and organized tournaments), entrance into the Italian community of players (e.g., participation in Facebook groups dedicated to the game and into a group of players called “Regiment”), and participatory observations of gaming sessions within the chosen community. I alternated between *covert* and *overt* approaches, depending on the data collection requirements and choosing not to reveal my identity as a researcher when data collection did not require the direct participation and active involvement of human subjects. This approach was particularly relevant in instances where I relied on secondary data obtained from social media platforms and social networks, as detailed in Section 2.2.3.

When collecting and analyzing data, I adopted a *reflexive* approach, which has been employed in previous works to study video games (e.g., Rapp, 2018b; 2020). Differently from the realist teller of the “objective” ethnographies, reflexivity values the researcher’s point of view and her personal experiences, which are reported in the ethnographic diary, and consider them as profound foundations for reflection and analysis (Van Manen, 1988). Moreover, it ensures the transparency of the ethnographic work, making the ethnographer’s decisions constantly accountable (Cardano, 2009; Van Maanen, 1988). This approach entails being mindful of my unique characteristics and how they could shape the ethnographic experience, including interactions with the individuals who were aware of my identity.

In this sense, it is useful to disclose my “position” with reference to this research. I am a psychologist, with a background in both Psychology and Human-Computer Interaction; I am Italian and of female gender, and I had 32 years old at the beginning of the ethnography; I have great passion for a broad range of video games, including the Call of Duty series, though my limited playing abilities, which are reflected in my low gaming rank. These individual traits actively influenced the dynamics and phenomena I observed and experienced. For instance, as a woman in an Italian gaming community, I initially felt to receive a privileged treatment from my fellow players who were always willing to help and teach me the basics of the game. However, as a low-skilled player, I struggled to make my

voice heard, influence the team's strategic decisions, or gain access to more competitive gaming environments.

In summary, this ethnographic study thoroughly explored the various aspects of the game, including different gaming modes and interactions within the community. Through careful observation and interaction, I gained insights into the cultural aspects of gaming, streaming, and online community engagement. Hopefully, this analysis not only fosters a nuanced understanding of the game's multifaceted nature but also sets the stage for further inquiries into the evolving landscape of contemporary online gaming.

## **2. In the World of “Call of Duty”**

In this section, I examine the reasons for choosing the game, outline the theoretical framework that guided the process, describe the ethnographic approach employed, and highlight the challenges encountered during the field study.

### **2.1 “Call of Duty: Warzone”: Rationale for Choosing the Game**

I have chosen to focus on Warzone for various reasons that encompass both the game's unique characteristics and its ability to foster intriguing social dynamics, as well as its connection with the community.

Warzone's allure lies in part in its position within one of the most successful gaming franchises, attracting a large and active player base. With a rich history since its first release in 2003, *Call of Duty* has evolved into one of the most famous and best-selling series worldwide, standing apart from other equally popular series, and drawing researchers' attention to the social phenomena within its multiplayer environments (e.g., Meades, 2015). Despite its twenty-year tradition, the series has continued to innovate and release titles that resonate with current young generations. This ability to attract a vast and diverse audience across various age groups became a central criterion in my selection of Warzone as a case study, although I limited my focus to the population of individuals over 18 years old to align with the ethics of consent. Warzone's robust community provides a fertile ground for examining player interaction, teamwork, communication, and the social

aspects of gaming. Moreover, Warzone's multiplayer and highly competitive nature facilitates the study of emerging social and organizational dynamics, allowing the exploration of the contemporary landscape of gaming.

Secondly, Warzone holds significance among Esports players and streamers, with players organizing tournaments and sharing their gaming sessions on online platforms followed by a vast audience. Uniquely, Warzone's release coincided with the COVID-19 pandemic and the subsequent lockdowns in 2020, creating ideal conditions for its growing popularity. With the pandemic, the player population increased (Wannigamage et al., 2020) and the same happened to Warzone, which expanded the size and diversity of the audience, with many women entering the world of competitive play (Eduardo, 2023). This allowed me to target an especially heterogeneous group. Additionally, the time spent in the game and on streaming platforms grew during the pandemic (Pantling, 2020; Stephen, 2020), quickly fostering a loyal audience and bringing various content creators to the fore. Streaming events drew 14 thousand viewers in April 2021 (Clement, 2023), making Warzone an ideal subject for my observation of Esports players.

In the next subsection, I describe the characteristics of the game that are relevant to the study's objectives, describe the game's design elements, referencing theories discussed in previous chapters of this work, and explore the social dynamics generated by the game that justify my choice of the case.

### **2.1.1 Characteristics of The Game "Call of Duty: Warzone"**

In this section, I provide a detailed description of the game which is the result of my ethnographic experience. I start by providing a general description of the game, focusing on its basic features and then explore the socio-technical characteristics of Warzone using different theoretical frameworks to help the reader understand the game. The MDA framework (Hunicke et al., 2004) accounts for the mechanics, dynamics and aesthetics elicited by the game.

#### *2.1.1.1 Main Features of The Game, Mechanics, and Aesthetics of Warzone*

Warzone's gameplay is set within a realistic military theme, complete with high-quality graphics and expansive environments, allowing players to immerse themselves in a fictional war zone. The standard mode, *Battle Royale*, sees players fighting on the *Verdansk*

map to be the last remaining in a match hosting up to 150 players. In contrast, the *Resurgence* mode on *Rebirth Island* map offers a more condensed version of Battle Royale with only 40 players.

Unlike traditional FPS games that often feature confined and linear maps, Warzone offers large landscapes filled with diverse terrains, buildings, and hidden locations. When the match starts, players are dropped into this vast environment armed only with basic, uncustomized pistols and two armor plates. They must then engage in looting - opening boxes scattered across the map, to find better weapons, equipment, killstreaks, and in-game money. The gameplay also includes customizable *loadouts*, allowing players to tailor their equipment to their playstyle. A loadout consists of a box containing personalized weapons and equipment, which can be purchased with in-game currency at *Buy Stations* located around the map. Additionally, in-game missions and contracts offer specific objectives and rewards, further enriching the gameplay experience.

Players may enjoy the game by *solo queuing*, meaning that they join a squad composed of random players assigned by the system (also known as “*random*” in Italian), which is then disbanded at the end of the match. Alternatively, players can become part of a *Regiment* - a clan system grouping those who wish to play together more regularly. People are normally recruited in a Regiment by co-optation or by answering to recruitment messages that are spread over the main social channels. Regiments can have various sizes, be more or less structured in terms of rules for playing and for the mutual interaction between their members, adopt different selection criteria, e.g., having a certain level of experience or competence, and objectives or mindsets, e.g., playing “for fun”, meaning that there are not further objectives except for the enjoyment, or instead striving for competitive playing, i.e., “tryhard”, also through the organization of private tournaments.

Matches can be contested alone or in teams, with sizes of two, three, or four members, and teams fight against enemies organized into groups of corresponding sizes. The overarching goal, whether playing alone or in a group, is survival – eliminating all enemy players in the arena while navigating a shrinking battlefield constricted by a deadly gas cloud. The tension of survival is amplified by the game’s revive system, including a feature called the *Gulag* (only available in the standard mode) where defeated players can duel for a second chance at life.

The aesthetics of Warzone, with large and open maps, contributes to a multifaceted emotional experience. Exploration becomes an adventure as players discover new locations and vantage points, creating a sense of wonder and curiosity. The realistic design, detailed environments, and immersive quality place participants within a convincing war zone, creating an environment that is both thrilling and visually stimulating. The scale of the game enhances the sense of challenge and competition.

#### *2.1.1.2 Social Dynamics and Emotions Elicited by Warzone*

In Warzone, players face enemies organized in teams, engaging in intense and stressful combat where mistakes can result in defeat and the end of the game. The standard mode emphasizes strategic gameplay, since players who are killed can only be *respawned* by their squad, which must expend resources at a *Buy Station* to bring them back. This mechanic is particularly punishing for players and forces them to constantly evaluate their movement, positioning, and engagement strategies. In contrast, the Resurgence mode offer a more forgiving respawn system, as redeployment occurs when the Rebirth Countdown, which appear beside the player's name, hits zero: to ensure a faster comeback, the players can perform in-game actions such as eliminating enemy squads or completing other in-game actions. However, the Rebirth Countdown turns off towards the end of a match, leading to less stress and competitiveness but fostering a faster and frenetic pace of play.

The game's competitive nature demands continuous learning, adaptation, and strategic decision-making. When they are part of a team, they must coordinate and communicate effectively, carefully weighing risk and reward in every choice they make. Strategic choices multiply as players must decide where to land, how to navigate the terrain, and when (and where) to take shelter or engage with enemies. The expansive geography allows for diverse playstyles, from sniping from concealed locations to close-quarters combat within buildings. Team collaboration is key, as squads must choose whether to spread out to control more ground or stay close for defense, fostering a complex and demanding team dynamic. It is worth noting that a significant portion of Warzone's player base consists of casual players, who play primarily for fun and might not be inclined to invest significant effort into each game session.

Players' performance is constantly tracked and displayed to both fellow players and enemies in the form of numbers. Statistics display detailed information about the player, like the level, which relates to the number of points gathered during the gaming sessions, and the Kill-Death ratio (K/D), a rapport between the number of kills executed and the deaths taken. Statistics are believed to influence the way players are assigned to a game session, during which they enter a *lobby*, that is a staging area in which players can warm up by fighting against their enemies for about 60 seconds. Among the players, there is the common belief that the game is equipped with a Skill-Based Matchmaking (SBMM), a multiplayer system which pairs players of similar skill level in the same lobbies based on a group of statistics about the player and the squad taken as a whole. Recently, the game developers declared that while "skill" is a considered factor in creating lobbies, this is not the dominant variable and that other factors, such as the connection and time to match, are also important for the process (McWhertor, 2024).

In conclusion, these mechanics and dynamics culminate in a variety of emotional responses. The shrinking map and the constant threat of engagement fill the gameplay with both tension and excitement. On the other side, the punishing nature of the game and the social comparison triggered by the presence of players' statistics can create the conditions for more "negative" emotions such as anger, frustration, and stress.

#### *2.1.1.3 Characteristics of the Warzone Community*

Warzone reached an impressive 100 million players in April 2021 (Pekmic, 2021), drawing attention from an audience eager for online content. This has led to a rich and dynamic ecosystem of streamer channels, tournaments, and Esports organizations specifically dedicated to the game, culminating in a complex community with as many as 750,000 live viewers in April 2021 (Pekmic, 2021).

The Warzone community's dynamism stems from its diverse player base, blending casual gamers with those in the Esports sphere. Casual players, who primarily seek enjoyment – playing "for fun", and might occasionally dip into amateur tournaments, contrast with Esports players who approach the game with a competitive spirit.

The "Esports" category includes people who dedicate themselves to both competitive gaming and streaming. Competitive gamers participate in structured environments like

ranked matches and tournaments, which pair them with opponents of equivalent skill, while their gameplay is often broadcasted on platforms such as Twitch and Facebook. *Ranked play* is a competitive mode tailored for a structured and skill-oriented experience, where participants are matched according to their skill levels through a ranking system. The option for ranked play is contingent on the developers of the game and typically spans several months. Conversely, *tournaments* are organized competitive events in which individuals or teams battle under predefined rules and formats. These competitions may be officially conducted by the game's developers or publishers, or they can arise from community-driven initiatives such as Esports associations and organizations. Interestingly, there is a convergence between competitive gaming and streaming: many who compete also stream their gameplay, and numerous streamers possess competitive experience or aspirations. Professional esports athletes, supported by Esports organizations, may generate income either through prize money in tournaments, streaming and/or sponsors. Typically, gameplay occurs in public matches that amalgamate these diverse player groups within the same competitive spaces. This arrangement fosters a unique environment where individuals with different skill sets and objectives converge, fostering both competitive and cooperative interactions. This unique convergence of playstyles and objectives adds to the richness of the Warzone community as an interesting case to study players' experiences and social dynamics.

#### 2.1.1.4 Interface Design and Spectator Engagement

Warzone presents an immersive player experience through innovative design elements and adopting an intuitive interface, which mediate the player experience and make it easy to use even for players who are new to the game. A key feature is the Heads-Up Display (HUD) providing real-time information, including the mini-map, ammunition, health status, and other essential in-game statistics: it has a minimalistic design to avoid distracting players, who can focus on gameplay while being provided essential information about their surroundings and their status.

Then, in the top-left corner of the screen, the *mini-map* displays a bird's eye view of the game terrain, showing landmarks and fellow players as well as locations on the map that have been *pinged*, (i.e., marked) such as enemy positions or loot spots. It is coupled with a

*compass*, in the top-right corner of the screen, that shows the direction the player is facing, helping to navigate the map and be aware of the surroundings. At the lower left-hand corner of the screen, there is a *health status bar* representing the player's current health or vitality and provides visual cues to indicate varying levels of health. The *weapon wheel* is located in the bottom-right corner of the screen, allowing one to quickly switch between weapons and, adjacent to it, there is the *ammunition counter*, which shows the amount of remaining ammunition for the equipped weapon. Finally, at the top or center of the screen there are other indicators offering essential information about the current objectives, missions, or providing in-game notifications that concern teammates (e.g., their health and combat status), which aid players in understanding their immediate goals and helps keep them aligned with the squad.

Streaming platforms like Twitch allow spectators to follow their favorite game sessions and tournaments that are broadcasted. The *spectator mode* allows viewers to see the game from a variety of perspectives, for instance they can decide to follow a specific player or team, or they can watch the game from a bird's-eye view or see the game from the player perspectives, being engaged in the game and getting insights on the player strategy. Other interactive features such as live chats and polls foster community engagement and allow spectators to feel part of the action. During Esports events, professional commentary by *shoutcasters* or simply *casters*, that are commentators who speak over the gaming action to engage the viewer, helps translate the complex game dynamics into understandable narratives.

Figure 1. A screenshot of the game.



Note: All the elements that could lead to identifying the name of the players have been censored.

## 2.2 Conducting A Digital Ethnography: Methodological Guidance and Related Works

### 2.2.1 Key Theoretical Aspects of Digital Ethnography

A central avenue for the exploration of video games as complex socio-cultural phenomena has been the ethnographic method, offering researchers a nuanced lens through which they can engage with virtual worlds. In this section I will provide information on the method, present an overview of the seminal works that used ethnography within the gaming world, and conclude highlighting learned lessons and research gaps within the field.

#### 2.2.1.1 Characteristics of Ethnography and Digital Ethnography

The ethnographic practice consists in immersing oneself within a culture to explore its phenomena by observing and interacting with the study subjects in their natural environment. Ethnography's roots lie in anthropology and sociology and includes the use of different qualitative methods such as observation, interviews, and direct engagement to provide thick description and contextual understanding of different cultures (Geertz,

1973; Clifford, 1997). The application of ethnography transcends the traditional domains of sociology and anthropology, finding relevance in psychological research and human-computer interaction (HCI), as it is particularly useful in capturing the essence of human interaction and societal structures.

In Psychology, ethnography proves invaluable for an in-depth examination of group behaviors, offering a detailed understanding of human actions within specific settings. Moreover, this methodological approach can be used for qualitative organizational research (Murthy, 2011) to reveal the complexities of organizational cultures, revealing the core dynamics at play, and providing rich insights into the everyday experiences of individuals in complex work environments. As highlighted by Ybema et al. (2009), when applied to the study of organizations, ethnography does not provide a simple descriptive account of the workplace, but it serves to “decode” the organizational culture, how it is formed, maintained, and transformed by its members.

Nowadays, the rise of online communities has led to the development of a subfield of ethnography: terms such as *network ethnography*, *cyber-ethnography*, and *digital* or *virtual ethnography* are commonly used to describe methodologies used in ethnographic research within digital contexts (Carter, 2005; Kozinets, 2010). The same principles of ethnography are applied and adapted by digital ethnographers to explore a variety of phenomena, social interactions, group dynamics, and cultural norms within virtual worlds mediated by digital technologies (Hine, 2000; Domínguez et al., 2007), including game communities.

Another relevant term is that of *autoethnography*, which recently emerged as a vital practice in the HCI community to explore gaming communities. This method emphasized the importance of self-reflection and personal experience in the research process, allowing researchers to examine their own biases, roles, and relationships within the research context (Rapp, 2018a). Autoethnography in HCI, as explained by Rapp (2018a), combines personal experience with research methodology, promoting a critical understanding of self within the technological environment.

Digital ethnographers adapt tools and techniques typical of ethnography (such as observation, interviews, and content analysis) to virtual environments. *Participant observation* requires the researcher to actively participate in the virtual environment under

study being involved in communications produced in the environment (Salmons, 2015). As detailed by Salmons (2015) researchers can either use data elicited from participants in response to the researcher's questions - for instance, conducting interviews, or use data generated with participants during the study, which includes multiple interactions and collaborations with the participants. *Non-participant observation* - or "unobtrusive observation" (Salmons, 2015), is equally important for researchers, who must watch interactions, follow threads, and analyze content without direct involvement with the community (Russo, 2017). Especially at the beginning, this type of observation (also called as *passive lurking*) allows researchers to enter the community without being directly involved in the relationship dynamics (Russo, 2015).

#### 2.2.1.2 Related works: Ethnography in the Gaming Context

Taylor T. L.'s work (2003) is an early example of a study venturing into MMOGs, aiming to understand instrumental play through observation and participant interviews. The author's methods parallel those of other scholars, such as Nardi (2010), who provided anthropological insights into *World of Warcraft* through immersive participation, and Taylor et al.'s (2015) 3-year study of *EVE Online* captures the interrelations between play and labor in the virtual world. This study highlights the importance of in-depth interviews and participant observation in grasping the unique socio-economic dynamics of virtual economies. Here, an ethnographic and longitudinal approach not only opens the door to understanding game mechanics but also unveils the social connections and hierarchies within the gaming community.

Many scholars used ethnography to unfold the characteristics of the social structures within gaming worlds. Morris (2004) spent time exploring gaming development and social practices surrounding FPS games, while Söbke's (2015) used a four-year long participant observation and analysis of interactions within *Farmville*, a Social-Network Game (SNG), and related online forums to critically assess both the design elements and the social dynamics that influence player behaviors. Several studies have been conducted within *World of Warcraft* (Vesa, 2013; Rapp, 2018b; Rapp, 2020), using interviews, observations, and immersive participation. For instance, Vesa's (2013) used participant observation, joining gaming groups and participating in their daily activities, to provide deep insights into the strategic practices of gaming raid groups, while Rapp (2018b) complemented the

observations with in-depth interviews to explore interpersonal relations, groups, and organizational design to understand how these social elements function within the game and their potential applications for gamification.

Ethnographic methods have also played a crucial role in more abstract and theoretical game explorations, and especially in the investigation of “dark behaviors” and practices in multiplayer video games (e.g., Consalvo, 2007; Meades, 2015). Consalvo’s work (2007) contributed to the understanding of cheating using a multifaceted methodological approach: she conducted interviews with 24 players to gather personal insights into the community’s perception of cheating, she used her experience as a player embedding herself within gaming communities, observing, and interacting with players. In addition to ethnographic methods, she performed a content analysis, analyzing various game guides, online forums, and gaming magazines. While Consalvo wanted to capture the phenomenon of cheating in different gaming worlds, Meades (2015) focused on FPS games, and specifically within the community of *Call of Duty* players, examining how they engage in counterplay behaviors. The author used detailed case studies that involved observing and participating directly in gameplay scenarios, documenting interactions that highlighted practices of *grief play*, *boosting*, *glitching*, *hardware hacking*, and *illicit modding*. In both cases, the ethnographic methods were critical in uncovering the meanings behind player actions.

Ethnographic tools were also used to explore phenomena that are interdisciplinary in nature, as they involve both the study of social media and gaming communities. A relevant work is that of Hamilton et al. (2014), who delved into Twitch streaming, employing ethnographic tools to observe the participatory culture of gaming across various genres. The authors spent several time exploring the streaming platform, engaging in streams and interacting within chat environments to gather a firsthand understanding of the community dynamics; then they conducted semi-structured interviews with 11 Twitch streamers and 4 viewers, to understand the motivations of streamers and viewers, as well as their experiences with Twitch. This study shows that ethnography can transcend traditional game boundaries, shedding light on emergent social media platforms that bridge gamers and viewers.

### 2.2.1.3 Using Ethnography: Insights for Research and Research Gap

The aforementioned studies collectively affirm the centrality of ethnography in video game research: by engaging deeply with players, communities, and the virtual worlds themselves, the use of ethnography can offer rich insights on the phenomena under study. It is worth noting that in all these studies a different mix of observations, interviews, and analytical tools was used. Some studies, such as Rapp (2018b) attempted to bring a more personal and reflexive perspective to study the social and relational structures within the game, while others (Taylor T.L., 2003; Consalvo, 2007; Söbke, 2005) explored the sociocultural and behavioral aspects of gaming, in the attempt to study the dynamics of power and identity, behaviors, and players' motivations. This variety reflects the flexibility and robustness of the ethnographic approach, which can be successfully adopted within different disciplines and can integrate a variety of methods.

Another common feature across studies is the immersion of the researcher in the gaming environment. In fact, to investigate online communities, game researchers need a significant amount of insider knowledge, which is required for them to enter these complex online environments: gaining access to online communities can be difficult because they are often closed off to outsiders and this pushes researchers to go through a process of negotiation with the community's members (Boldi et al., 2023; Braithwaite, 2016). However, immersion might present its own set of issues for the researcher, especially in the case of sensitive topics such as cheating.

By and large, the adoption of the ethnographic method in video game studies is most pronounced in studies focusing on Massively Multiplayer Online Games (MMOGs) and Massively Multiplayer Online Role-Playing Games (MMORPGs), with less attention reserved to different game genres and platforms (e.g., Söbke, 2015; Meades, 2015). Moreover, ethnography has been used to analyze social dynamics within online multiplayer games, but less attention has been dedicated to topics such as Esports and streaming, with the exception of Hamilton et al. (2014). This leaves a gap in the research, but more research is needed to understand this phenomenon. There is also a lack of integration of different disciplines, such as Psychology, that could provide a more holistic view of the gaming world.

### **2.2.2 Ethical Aspects of The Ethnographic Investigation**

Conducting ethnography within digital spaces and gaming communities present unique ethical challenges, including how to obtain informed consent, protecting participants, and exposing the identity of the ethnographer to a broad audience. As I immersed myself into the Warzone community to conduct the research, I encountered a range of ethical challenges and dilemmas. Therefore, to navigate these issues, I consulted the existing literature to seek guidance and understand how similar challenges had been tackled and resolved by scholars in the past.

The relevance of these ethical considerations extends beyond mere procedural or compliance concerns, calling for a separated section where I explore how researchers have adapted their methodologies to align with their subjects' multifaceted and evolving nature. I consider this part worthy of exploration as ethical thought and practice is an integral part of this work and it is meant to enhance its integrity and trustworthiness.

#### *2.2.2.1 Defining "Privacy" In Online Spaces*

A salient issue that arises in digital ethnography is how to ensure the *privacy* of participants, granting them control over particular aspects of their personal lives, collecting their *informed consent*, the standard tool used in research involving human participants. When proper consent is lacking, individuals may find themselves unable to withdraw from a study, thus limiting their agency to control the information they disclose (Social Policy Association, 2009). However, in virtual spaces "public" and "private" domains are not easily distinguishable, as these dimensions intertwine in online experiences (Waskul & Douglass, 1996). The multifaceted nature of virtual worlds means that contemporary guidelines (e.g., The Norwegian National Research Ethics Committees, 2016; Association of Internet Researchers, AoIR, 2019) may not cover all the possible scenarios encountered by researchers. In the absence of precise regulations, scholars have proposed criteria to guide researchers in ethical decision-making.

The first consideration centers on the public or private status of virtual spaces. This distinction is relevant as in a public sphere an individual willingly subjects oneself to examination, surrendering control over disclosed information (Shils, 1959). Research clarifies that the term "public" does not refer to the geographical location but rather to the intrinsic nature of the act (Spicker, 2011). Virtual communities may be classified as

private if characterized by significant emotional engagement (Pfeil & Zaphiris, 2010) or if personal information is shared among members in an atmosphere of trust and cohesion (Wijava et al., 2012). The design of the platform can also guide the researcher in determining whether a community is public or private: for instance, if the platform's architecture makes member interactions broadly visible, the community may reasonably be considered public, thus negating the need for informed consent in observation and data collection (Paccagnella, 1997).

The second consideration requires researchers to assess whether, and to what extent, their actions limit the personal freedoms of the subject (Homan, 1991), specifically regarding the subject's autonomy and self-determination (Faden & Beauchamp, 1986). Any research action that becomes intrusive, oppressive, or overly demanding must be avoided, especially if the process of "disclosure" could be seen as alarming or invasive. Mere disclosure, and subsequent requests for informed consent, might not adequately protect some subjects' interests and could render the tool of consent essentially "vacuous" and devoid of real protection for research participants (Corrigan, 2003).

#### *2.2.2.2 Ethics of Covert Digital Ethnography*

Literature emphasizes that a clear-cut distinction between *covert* and *overt* research methods is hard to define; rather, it is best to envision a spectrum along which the researcher's actions may be more or less revealing (Australian Government, National Health and Medical Research Council, 2007; Lugosi, 2006). Covert research involves concealing the identity of the researcher but does not inflict harm on the research subjects. Yet, this method raises many ethical concerns which stem from the conceptual confusion between "deception" and "concealment" (Spicker, 2011). As Spicker (2011) clarifies, in covert research, the subject remains unaware of the ongoing investigation, whereas a researcher employing deception leads the subject to believe one thing while something else is, in fact, happening.

The reasons to choose a covert ethnographic approach is to avoid altering the observed behavior. Moreover, obtaining consent from all observed individuals is virtually impossible and incompatible with the ethnographic method, which thrives on a naturalistic approach. Declaring one's role and requesting consent may lead subjects to alter their behavior,

thereby invalidating the research; furthermore, practical opportunities to ask for consent may be lacking (Australian National Health and Medical Research Council, 2007). Another reason for choosing covert ethnography concerns the power dynamics between researchers and participants. While researchers usually hold a privileged position, the study community's characteristics, and the researcher's relation to it (e.g., gender, social status, nationality) must be considered as well. Like research participants, researchers might become vulnerable when revealing their identity, exposing themselves to potential persecutory actions from the public.

The literature documents various cases of this kind: researchers such as Maddox (2020) have received explicit death threats, similarly to Phillips (2015) and Nakamura (2014), who conducted research in male-dominated communities known for trolling behaviors. Buckles et al. (2014) also note that sadistic behaviors are frequently encountered online, especially when users identify those of different status (e.g., minorities, women). While covert participation would not require sharing personal information, unmasking would put both subject and researcher in a position to reveal personal details. Female researchers disclosing their names and gender identity may reverse the typical power dynamics of many research contexts. Therefore, the IRE 3.0 guidelines (Internet Research Ethical Guidelines), issued by the Association of Internet Researchers (2012) emphasize the need to safeguard researchers alongside research subjects.

Further exploration of how I navigated these ethical challenges and the specific measures taken to mitigate risks will be detailed in Section 3.2.3 (Treatment of Collected Data).

### **3. Procedure**

#### **3.1 Sources of Data Collected Throughout the Ethnography**

During the ethnography, I joined the “online spaces” where players of the Italian COD community usually meet and discuss about the game, investigating (i) social networks, i.e., players' private groups on Facebook, as well as Instagram pages of streamers, content creators, and tournament organizations; (ii) content communities, i.e., Twitch and YouTube channels; (iii) social media, i.e., servers on Discord and private WhatsApp groups;

(iv) and official websites containing guides and detailed descriptions of the battle arena (e.g., callofduty.com). During the ethnographic work, I also joined a regiment, entering its private WhatsApp group, counting 128 members.

In this section I explain how I get access to the Warzone community, and what strategies I used to collect data in an ethical manner.

### **3.1.1 Getting Access to the COD Community**

Rather than true communities, online gaming worlds seem to be characterized mostly by the presence of more unstable, fluid, and delocalized collective entities. Instead of communities, these forms of contact take the shape of “consociations” (Kozinets, 2015), where bonds among members are based on what the members have in common rather than their identity (Amit & Rapport, 2002). When I was faced with consociations and when the nature of the places within which I conducted the research was public, I adopted a covert approach. In other cases, however, I declared my identity as a researcher and adopted a more overt approach: this was the case with the participant observations that occurred within the gaming regiments and the interviews. In this section, I explain how I gained access to the various ethnographic locations, how I balanced the covert and overt approach, and how I ensured the ethics of the research and data collection.

#### *3.1.1.2 Accessing social media networks: Twitch, Facebook, Instagram, and YouTube*

On the YouTube platform, videos are accessible to a wide-ranging user community, encompassing approximately 2 billion individuals across the globe (Ceci, 2023). My access to videos did not necessitate the creation of an account; it was sufficient to use an Internet connection and a browser. This allowed me to collect and analyze the videos uploaded by creators and shared with YouTube users and the public. I then used my Instagram account to follow the pages of streamers and content creators or tournament organizations, and my Facebook account to join specific gaming groups. In this case, based on previous cases traceable in the literature (e.g., Wijava et al., 2012), I decided to declare my role as a researcher only to the administrator(s) - leader(s) of the Facebook page, but not to the individual members of the groups. In fact, any admission to these groups was contingent on a request for membership that required administrative approval. Yet, this procedure does not render such groups private, rather this mechanism serves to enforce moderation

and compliance with predetermined rules under the oversight of the group's administrator. Finally, access to the Twitch platform is unrestricted, obviating the need to declare identity or engage with any gatekeepers. A simple account creation with a verifiable email address suffices for entry.

#### 3.1.1.2 Accessing the Regiment

I scanned for a Regiment that respected some elective criteria in line with the research objectives. The regiment had to: i) aggregate people of legal age and, preferably, with a diverse range of ages ; ii) be active since the first months after the release of the game, i.e., March 2020, so to count on the stability of the group, the variability of their members in terms of experience, and the evolution of their dynamics, e.g., establishment of common norms and rules; iii) count more than 20 individuals, so to observe different combinations of gaming teams, which are normally composed by three or four members; iv) be open to people who were inexperienced to the game and, therefore, whose gaming competences were limited.

After a few brief attempts in a couple of Regiments which, at a closer look, did not fully respect these criteria, I contacted one of the administrators of another Regiment, who had posted a "recruitment" message on the Facebook group of Warzone. I contacted him and was invited to join their WhatsApp group where my request for entry was evaluated by other officers. The recruitment consisted in a presentation, explaining the reasons for joining the group, reading, and accepting their rules of conduct. Once accepted, I was immediately integrated into their communication channels (e.g., WhatsApp group, Facebook group, and Discord group), and included in the Regiment on the gaming platform. To play with other players I could directly invite them through the WhatsApp group or the in-game system and join other players' gaming sessions, initiating voice chats with party members.

The regiment I joined counted about 128 members and had a rudimentary hierarchy, being composed by an administrator (the *founder*) and a group of *officers*, who had the responsibility to recruit new members, supervise the compliance with the rules, moderate discussion within the group chat, and collect people's requests and/or complaints. The identity of the group consisted in adding the Regiment's *tag* in front of my nickname and

respecting their code of conducts, which punished so-called toxic behaviors (mainly harassment towards opponents or fellow players, racism, and sexist content) performed both in gaming sessions and in the informal daily communications on WhatsApp.

### **3.1.2 Ethical Aspects: Balancing Overt and Covert Ethnography and Treating Data**

According to the contemporary academic discourse, under specific conditions a request for Informed Consent from research participants may not be necessary, and specifically when: 1) the research does not pose any risks to the participants; 2) the absence of consent does not negatively impact the well-being of the participants; 3) obtaining the consent must be either impossible or impractical to conduct, and the research questions are unanswerable if consent is required beforehand; 4) the process of seeking consent would expose the researcher to risk, particularly if they are a member of a minority group (e.g., women).

Based on this, I did obtain Informed Consent when conducting interviews with participants or recorded gaming sessions of casual players within the regiment, but I refrained from this practice when data collection concerned Twitch, Facebook, and YouTube, which all have a public nature (see Table 1 for a summary) or during the informal conversation, the participant observations and the general participation to the life of the regiment and the whole community at large. Moreover, the design of the platform made it impossible to get in contact with all the members of the Warzone streaming community. As an example, on Twitch the sole available communication channel is the streaming chat: specific regulations govern the game streaming chat, such as the proscription of messages that violate the 500-character limit or stray from the topic of discussion, with penalties including exclusion (*ban*) from the chat. The frenetic pace of message exchange, frequently numbering in the hundreds per minute, further inhibits meaningful dialogue with chat members or the streamer.

Following these criteria, the research has been approved by the ethical committee of the University of Torino.

Table 1. Data Collected Through Covert and Overt Ethnographic Actions

Data collected	Approach	Written Informed Consent
Recording game sessions posted by streamers (live and recorded) on Twitch	Covert	No
Posts made by group members on various social media (e.g., Facebook, Instagram...)	Covert/Overt to the administration of the Facebook page	No
Videos recorded and uploaded by Esports players (e.g., streamers, content creators) of the Italian COD community on YouTube	Covert	No
Interviews to players	Overt	Yes
Recorded conversations of gaming sessions between casual players recorded with OBS	Overt	Yes

### 3.2 Data Collection Methods

The ethnography was conducted from May 2021 to January 2023. Within this period, I alternated phases of participant observation and data analysis. I used different data sources for my investigation: (i) participant and non-participant observations of gaming sessions and the analysis of players' communication, (ii) data coming from social networks and social media like posts, comments, and videos, (iii) informal conversations, (iv) semi-structured interviews, and (v) a personal diary. The list of data collection methods is presented in Table 2.

Prior to discussing the specific data collection techniques employed, it is crucial to understand the theoretical framework underpinning the analysis of communication within this context. Therefore, a preliminary discussion explores the theoretical dimensions of communication analysis, supplemented by an overview of relevant studies that have scrutinized in-game conversations. This exploration aims to extract valuable insights for effectively integrating this analytical method into my ethnographic research.

Table 2. List of data collection methods. A summary.

Method	Description	Target	Period of collection
<b>Observation</b>	(1) Participant observation of the gaming sessions played by the researcher; at the beginning of the ethnography, part of them (n = 6, 1 hours and 17 minutes) were recorded for more in-depth observation; (2) Observations of tournaments and broadcasted gaming sessions played by Esports players	(1) Casual players belonging to the ethnographer's regiment or met randomly online; (2) Esports players (streamers/players playing competitively)	At the beginning of the ethnography; For the whole duration of the ethnography
<b>Social media content</b>	(1) 150 game-related posts and comments on Warzone Facebook groups; (2) Content (e.g., videos, posts) found on Esports players' social media accounts (i.e., Instagram, Facebook, Twitter, YouTube, and Twitch)	(1) Casual players who joined Warzone Facebook groups (counting 107.602 members collectively); (2) The 10 most popular Italian Warzone streamers	For the whole duration of the ethnography
<b>Informal conversations</b>	Informal conversations with players on Warzone-related topics (about e.g., personal playing experiences); a subsample of them (n = 9) of informal conversations was documented systematically to facilitate detailed analysis	Mostly casual but also Esport players belonging to the ethnographer's regiment, met randomly online or through other means (e.g., social media, mutual acquaintances...)	For the whole duration of the ethnography
<b>Semi-structured interviews</b>	Semi-structured interviews (n = 27) conducted online concerning the players' subjective experience of playing Warzone	27 Warzone players	Six months after the beginning of the ethnography
<b>Ethnographer's diary</b>	Field notes concerning the ethnographer's daily observations and reflections, relevant quotations gained from the informal conversations, interviews, relevant posts on social media and networks	The ethnographer herself	For the whole duration of the ethnography
<b>Analysis of in-game communication</b>	A number of 29 game sessions played by casuals, Esports players, during tournaments or streaming, collected from participants or published online on publicly accessible platforms (e.g., Twitch, YouTube), for a total of 7h, 38' of recording, and a total of 5915 utterances.	(1) Casual players; (2) Esports players (competitive players, streamers)	Six months after the beginning of the ethnography

### 3.2.1 The Analysis of Communication

Video games can be conceptualized as a dynamic “forum for interpersonal communication” (Lucas & Sherry, 2004), an interpretation which opens up avenues for exploring player interactions through the lens of communication analysis. Given the importance of communication for the experience of multiplayer video games, analyzing communication facilitates the exploration of complex player interactions. However, the dynamic and often unpredictable nature of gaming spaces - characterized by variable player behaviors and rapid, sometimes chaotic, environments, poses significant challenges for observation and analysis. Ethical concerns regarding privacy and consent further complicate the research process.

#### 3.2.1.1 Using the Analysis of Communication: Rationale for The Selected Method

Communication analysis offers a comprehensive view of human interactions, particularly in the context of online gaming. Communication analysis provides a more versatile framework for the gaming context, unlike *conversation analysis (CA)* and *language analysis*.

*Conversational analysis*. Conversation analysis (CA) is a methodological approach that seeks to understand the structures and processes of social interaction as they manifest in conversation. Through the study of talk and its structure and organization, it aims to uncover the underlying rules and patterns that govern everyday interactions (Drew et al., 2020). This method is grounded in ethnomethodology (Garfinkel, 1967), which studies how people understand and organize social actions. By examining the details of verbal exchanges, CA can provide insights into areas like turn-taking, sequence organization, and the use of conversational repairs (Reeves et al., 2017). For instance, the way speakers coordinate turns and attempt to repair problems during the conversation can reveal important aspects of that interaction.

*Language analysis*. On the opposite pole of this perspective, language analysis is an interdisciplinary field encompassing the study of linguistic structure, meaning, context, and use. This may include the granular examination of syntax, semantics, pragmatics, and discourse (Walther & Whitty, 2020). This fine-grained examination enables researchers to delve into the core principles that govern language and its utilization. From a theoretical point of view, language analysis is rooted in cognitive psychology, affirming that language

can be analyzed to infer psychological processes, containing subtle clues that can be used to understand complex human behaviors (Boyd and Schwartz, 2020). Linguistic analysis often integrates different theories that can help understand verbal behavior. Computational methods are integral to contemporary linguistic analysis, such as natural language processing (NLP), as reviewed by Boyd & Schwartz (2020) and they involve the use of algorithms and artificial intelligence to analyze large amounts of textual data.

One of the main limitations of CA is its intense focus on the sequential organization of talk, which can be challenging to apply in the context of online gaming, due to the asynchronous and often text-based nature of online game communication (Bennerstedt & Ivarsson, 2010). On the other hand, language analysis requires extensive data but struggles with contextual nuances that are important to understand the phenomenon under study.

In contrast, the approach of communication analysis is grounded in communication theory, which encompasses the study of how information is transmitted, received, and interpreted among individuals or groups (Konijn et al., 2008). It enables context-aware analysis that other methods might miss and allows the integration of different techniques and methods without being confined to a single theoretical framework, making it adaptable to different research questions and phenomena. This approach is then particularly suitable for studying gaming contexts because it can adapt to the unique communicative dynamics of virtual terrains, where interactions are often rapid and fragmented. It has been applied to study phenomena that are typical of human interaction, such as knowledge-sharing mechanisms, the development of mutual understanding in real-time, coordination, and collaboration within virtual terrains. The choice of this method allows to quantify and categorize communicative behaviors systematically, providing a clear and detailed picture of the social dynamics at play.

### *3.2.1.2 The Study of Communication in Research*

The use of communication analysis is characterized by a diverse and interdisciplinary methodological approach. First of all, relevant recent research has employed established theories from professional and organizational settings to understand communication in gaming. This includes using frameworks like the Interaction Process Analysis (IPA) to explore group communication dynamics, decision-making processes, and emotional

interactions among players (e.g., Peña & Hancock, 2006; Tan et al., 2021; Tan et al., 2022). The use of content analysis is another cornerstone. Typically, researchers have categorized player dialogues to unveil interaction patterns and thematic concerns (as in Sužnjević et al., 2009; Von Gillern, 2021).

Moreover, another noticeable trend is the blend of both qualitative and quantitative research methods. By and large, researchers first employ qualitative methods to code data into categories (Tan et al., 2022), then the established categories are treated as variables for quantitative statistical analysis (Peña & Hancock, 2006; Tan et al., 2021). This mixed-method approach ensures that the richness of the qualitative data is preserved while also allowing for the exploration of research hypotheses.

In summary, these studies underscore the efficacy of communication analysis in video gaming research, providing a clear and effective methodology for investigating player interactions and the complex social dynamics of virtual worlds, and offering valuable insights into player behavior.

### **3.2.2 Methods Used to Collect Data**

#### *3.2.2.1 Participant Observation*

*Social interaction within the Regiment.* I conducted observations on the online spaces of the community and played the game as a participant-observer, participating in 190 matches, for a total of 98 h, 16 min, and 48 s of play, and reaching the level 382. Within the Regiment I had the opportunity to play regularly with different players, observe social and organizational dynamics, take part in players' discussions daily, and develop social bonds. In doing so, I also focused on the design elements of the game, trying to understand how these may affect the players' individual, social, and organizational behaviors. Informal conversations were collected for the whole ethnography, contributing to enriching my knowledge of the subject and even during the writing, to double-check the argumentation of the paper.

*Participant gaming sessions.* I have conducted observations of the gaming sessions in which I participated, and recorded notes about the players' behavior and game dynamics observed in my diary. A subset of these sessions (n = 6, lasting approximately 1 hour and 17 minutes) were also video recorded with the players' consent to facilitate more detailed

analysis. The recording of these gaming sessions was crucial in the early stages of my ethnographic research as it helped me acclimate with the game's mechanics and the social dynamics within the game environment. Given the game's rapid pace, and the design of the game - which did not allow one to observe the match without being an active part of it, it was impractical to simultaneously play and document observations or capture direct quotes effectively. This strategy, initially adopted due to my unfamiliarity with the game, allowed me to later focus more intently on observing the dynamics, but as my familiarity with the game increased, I was better able to engage deeply, reflect on the interactions, and compile comprehensive ethnographic notes without recording.

### 3.2.2.2 Non-participant Observation

*Social media.* I collected data from different online spaces. Facebook groups such as *Call of Duty Italia* and *Call of Duty Warzone ITA*, having 107.602 members collectively, were useful to familiarize with the gaming jargon, detect what were the main interest topic, grasp different nuances of casual players' opinions about the research object and to get a wider view of players' gaming experience at large. While the Facebook groups were scanned every day, a total of 150 posts with related comments were collected as significant examples of Warzone culture. I also joined both public and private groups of Telegram, Discord and WhatsApp with the objective to stay updated on the relevant news concerning the game, to have daily informal conversation with other players – both within and outside the regiment, as well as to have access to the organization of tournaments. *Instagram*, *Facebook*, and *Twitter* pages of Esports players, including streamers and their *Twitch* accounts, were explored to learn how these players interacted with their followers, and which were the main topics of discussion. On *Twitch* I had followed, for the entire duration of the ethnography, a total of 10 streamers who involved an audience of 5,6 million of people altogether. Video uploaded on *YouTube* by both streamers and content creators were watched and classified according to the topic addressed and the number of views: relevant quotations were reported as annotations within the ethnographic journal.

*Gaming sessions.* In order to perform the communication analysis of the gaming sessions which I did not take part of, I collected a number of 29 gaming sessions, for a total duration of 7 hours and 33 minutes. These sessions were categorized into two distinct types: those played casually or “for fun” by casual players, and those played in an Esports setting, like

streaming or tournaments, predominantly by professional players but also involving amateur Esports players. As my primary unit of analysis was the “utterance” (and not the gaming session), my aim was to gather a balanced corpus of utterances from both contexts of play for comparison. As the gaming sessions were transcribed, I realized there was an imbalance; therefore, I extended the collection phase until both contexts were equally represented.

As for casual players’ gaming sessions (n = 20, 4 hours and 20 minutes), I asked participants to record and share with me one of their gaming sessions. I instructed them of the characteristics I was looking for, concerning the number of players of the team and duration. This practice was possible since players were used to record or stream their gaming sessions (or part of their gaming sessions) anyway. It was common for the members of the regiment to share clips of their games on social media and with their friends despite they were not streamers, nor did they consider themselves as such. Moreover, I could not use the sessions I recorded and participated in because my presence could bias the result. As for Esports players and streamers, I downloaded and watched 10 gaming sessions broadcasted (n = 10, 3 hours and 18 minutes) on online platforms, which were, instead, publicly available.

The transcription method used for these sessions was primarily verbal, focusing on the analysis of vocal communications between players. I did not employ multimodal transcription consistently, which would include visual and non-verbal elements such as gestures, facial expressions, body movements, and interactions with the game environment. The complexity of adapting this method to the gaming context, which requires consideration of both the avatar’s and the speaker’s movements and interactions, influenced this decision. Instead, I provided contextual notes alongside the transcribed text to aid in coding. For example, I distinguished utterances that could be categorized as “Anger/Frustration”, or “Humor/Taunting” based on the player’s tone and the general context in which the phrase was spoken. In some cases, I noted the avatar’s behavior (not the player’s) to better understand the communication’s meaning. It was particularly helpful to indicate whether the person was looking at the camera or lowering their voice. However, rather than adopting a stringent multimodal transcription methodology, my approach involved going back and forth from coding to the original video: when

encountering ambiguous phrases, I referred back to the video to understand the context and how to code them accurately.

### 3.2.2.3 Ethnographic Diary

Personal experiences and reflections prompted by observations were collected through a daily diary, where I wrote down my notes after a game session and stored the links that the members of the Regiment shared, whenever they concerned news, articles or videos which were interesting for her research question. The diary also contained the content found on the web, such as interesting posts and videos of the members of the community, paying attention to filter any elements that could lead to recognition. I decided to follow Geertz's methodology (1973), drafting the field notes in a more descriptive manner at the beginning of the ethnography, including a great number of details; only in a second moment, where I gathered more insights from data, I enriched the diary with more abstract reflections. The style of the diary was personal, but it also included references to literature as I became more familiar with it, in a later phase of the ethnography. To provide an example of the content of the diary, I hereby report an extract:

“Today, while playing with some really skilled group members, like XXX [anonymized] and XXX [anonymized], I realized that, at a certain point, I started to "sabotage" their commands. We were playing Resurgence and, after a few sessions, for the first time since playing Warzone, instead of launching myself where they suggested - which is always super crowded with lots of enemies dropping there to loot and do the loadout, I landed at Decon instead where is quieter and no one ever lands... and I realized that I was actually a bit angry at them for always parachuting onto Bioweapon without listening to any other proposals. I was frustrated because the first matches with them were always the same: I followed their orders and just died the whole time... So, this time, I wanted to protect myself, to avoid dying all the time which is not enjoyable ... but at the same time, it is true that going away from them deprived them of a resource... even though I'm not very skilled, I could act as a human shield or informant. In fact, after a while, they wondered where I was, but they didn't notice it right away, as they were too focused on fighting the enemies. The thing is, from my perspective, their playstyle is aggressive, they don't communicate much, they tend to be very individualistic... and after a while, I feel ignored; I feel like the team “isn't there”, so this

time I preferred to follow my own rhythm instead of having to keep up with them, running back and forth. Even another group member seems to feel the same way; on WhatsApp he said, “To follow them, I have to keep my head in the TV, otherwise I lose them, then when I disconnect, I feel tired, worse than a workday 😂😂😂”.

In general, I do have the feeling that skilled players always run around the map and “expect” to be followed. I often hear other members of the regiment complaining, like XXX [anonymized], who finds himself alone facing a team of enemies, and often complains because no one followed him to push the enemies ... but the truth is, he doesn't communicate and still expects the rest of the group to be his shadow, basically. I wonder if these people get bored with playing more relaxed and strategic styles. Maybe they always want to test themselves, seek confrontation, especially because they are more confident? Indeed, the stronger people in the regiment often look down on those who camp, wondering how they can enjoy themselves... for them, it seems that the fun isn't in hiding in a corner but in showing technical superiority and skill in the game, so they constantly seek this type of interaction.

This makes me think that during the interview I could ask a question about the times when players feel “to be in a team” and the times when they feel it less, in what conditions they feel more stressed, etc. I could also investigate what people are looking for in the game, what entertains them the most, what gives them the most satisfaction. The theme of cooperation emerges as important as well... maybe I can explore if there are differences among casual players, in terms of competence.”

[extract from the ethnographic diary, 3 August 2021].

#### 3.2.2.4 Interview and interview Agenda

*Sample recruitment.* After six months from the beginning of the ethnography, I started conducting semi-structured interviews with 27 participants (average age = 31,6; females = 4). To select the sample, I used a purposeful sampling technique (Marshall, 1996), differentiating the sample along dimensions that emerged as relevant while exploring the Warzone community. A key criterion was that of *competence*, intended as the capability to use skills and knowledge of the game as a resource to reach in-game objectives. During my observations, I noticed that the gaming skills greatly affected social interactions among players: for instance, players' choices regarding teammates or members of their regiment, and the composition of the squad to start a match were affected by skills: sometimes,

players did not want to play with teammates who were more or less skilled than themselves.

In light of this, I asked four of the most expert players of my Regiment what criteria they used to assess the other players' competence to make in-game decisions. I identified two relevant dimensions for evaluating competence in Warzone: (i) the *experience*, defined by the time spent in the game and the number of matches played, and (ii) the *ability*, indicated by the overall K/D ratio, the number of kills, deaths, and the overall score. I also differentiated the sample according to seniority within their Regiment and time spent playing with both group members and personal fellow gamers (e.g., friends in real-life, players who were not interested in taking part in a structured group, etc.). These criteria guided my recruitment.

I began the recruitment by involving players (n = 19, 76%) from the Regiment, assuming that interviewing individuals within the same gaming organization could enhance trust and positively contribute to data quality. Then, I adopted a snowball sampling technique, asking participants to forward a recruitment message to fellow gamers. This method allowed me to gather gamers with a wider range of experiences. Following a data saturation criterion (Bowen, 2008), I settled on 27 participants when I realized that additional data would not have produced new critical findings.

*Interview script.* Through the interviews, I explored the players' subjective experiences in Warzone, including their connections with game design elements and the social ecosystem. The questions were defined on the basis of my personal experience and the informal conversations made with other players. Participants were also left free to explore unanticipated themes and topics, leading to adjustments in the interview agenda. Topics spontaneously discussed included the importance of the game statistics, the relevance of technology, and the phenomenon of cheating. Recognizing the importance of these topics to the players, I made a conscious decision to incorporate questions in the final version of the interview agenda, which is fully reported in Table 3 and hereby briefly described.

Table 3. Interview agenda. Detailed list of questions

<b>Demographic questions (5')</b>
Age, gender, educational background, work background

<b>Ice-breaking questions (5')</b>
<ul style="list-style-type: none"> <li>- How long have you been playing video games? What video games do you prefer the most?</li> <li>- Do you like FPS games? What do you like about these games?</li> </ul>
<b>Approaching Warzone and Learning the Game (10 min)</b>
<ul style="list-style-type: none"> <li>- How long have you been playing Warzone? How did you start playing the game, and why? Do you have any friends who suggested this title to you?</li> <li>- How much time do you spend playing Warzone? Do you play on a computer or on a gaming platform? What modality of the game do you prefer?</li> <li>- How did you learn how to play? Did you start playing alone or with someone? What resources did you use to learn the mechanics of the game?</li> </ul>
<b>Experience of the Game (15 min)</b>
<ul style="list-style-type: none"> <li>- In general, what do you like about playing this game? Is there something in particular that you enjoy in the gameplay?</li> <li>- What is your goal when you play Warzone? Is winning the game important? If not, what other objectives do you have when you play the game?</li> <li>- Can you think about a gaming session that you particularly enjoyed and describe it to me? Who were you playing with? Did you win?</li> <li>- Can you think about a gaming session that you did not like? How was it different from the other examples you gave me?</li> </ul>
<b>Social Aspects of the Game (15 min)</b>
<ul style="list-style-type: none"> <li>- Are you part of a Regiment? Did you start playing within a regiment from the beginning or not? Why did you decide to join a regiment? Do you also play with random players?</li> <li>- What do you do to win the game? What aspects do you think are the most important to secure victory?</li> <li>- Let's talk about cooperation with your teammates. Do you think it is important in this game? Why or why not? Can you explain what you do to cooperate with them? Have you ever experienced members who do not cooperate during the game? Are there any moments when cooperation is difficult?</li> <li>- Let's talk about making decisions. When do you have to make decisions in the game? How do you do that? Do you prefer to make decisions or to delegate to others? Why?</li> <li>- Let's talk about communication. Do you think communicating is important in this game? Why or why not? How do you communicate with your teammates? Are there any moments when it is difficult to communicate?</li> </ul>
<b>Cheating (15 min)</b>
<ul style="list-style-type: none"> <li>- Can you provide a definition of cheating in Warzone? Where and when did you hear about cheating for the first time?</li> <li>- Do you think it is a very common phenomenon? Why do you think that is?</li> <li>- How do you know when there is a cheater in your lobby? What happens when you believe a cheater is part of your enemy team? What do you do? How do you feel in those situations where cheaters are in your lobby?</li> <li>- What do you think about cheaters?</li> <li>- Do you think Esporters, and streamers use cheats? Is it different from casual players using cheats? Why?</li> </ul>
<b>Closing (2 min)</b>
Is there anything that you want to add to what you have said?

I began with demographic and ice-breaking questions, to explore the players' background, passion for video games, experiences with the FPS genre, COD franchise, and Warzone. I listened to participants' game history and investigated their gaming habits, such as time

played, and preferred modalities in Warzone. Then, I went into the core of the interview. In the first part, I investigated their learning process, in other words how they learned how to play the game and the role that others had in helping them acquire the basic skills to navigate the map and learn the game mechanics. I then explored their subjective experience of the game, prompting them to tell typical anecdotes and examples that could illustrate their point of view on various game episodes, asking them to go into the details as much as they remembered.

In the second part, I focused on the social and organizational dynamics elicited by the game. My goal was to understand how players behaved in the game and the underlying reasons for their behavior. I also wanted to learn about their experience as team members and the typical dynamics they observed when part of different teams. I explored how much importance they gave to their personal and group performance, and then focused on the cooperative and non-cooperative dynamics and decision-making process as these emerged as relevant topics during my experience of Warzone.

The final part was dedicated to topics spontaneously brought up by the participants. I asked them how important technology was for enjoying the game and what kind of impact it had on their experience. I also explored what meaning players attributed to the term “cheating”, asking for specific examples. I tried to understand where this knowledge came from, their expertise on the subject, and whether they believed they could recognize cheaters. I inquired about the impact of cheaters’ presence in the lobby on their game experience and how they behaved when they believed cheating was occurring. I also attempted to grasp the emotional nuances attached to cheating and what opinion they had of cheaters. Finally, I sought to understand the role of game statistics in their gameplay.

I collected a total of 22 hours and 13 minutes of recordings. The interviews lasted an average of 1h and 42 minutes each.

### **3.2.3 Treatment of Collected Data**

#### *3.2.3.1 Online Places - Covert Ethnography*

The identity of the participants was preserved by carefully collecting and treating data. To respect the personal privacy of each member, even in “public” places I proceeded to the

total anonymization of both the nickname and the username used by the subject on social media, considering that the pseudonym works in a similar way to a real name and must be treated as such (Bruckman, 2002). Following the suggestion of the AoIR guidelines (Ess & AoIR, 2002), I kept the material in my local computer by associating the game nickname with an anonymous ID to protect the identity of participants which could be revealed by the gaming nickname. In some cases, anonymization was facilitated by the features of the platform: for instance, Twitch platform's user registration relies solely on nicknames rather than conventional naming formats, affording a higher degree of privacy. In other cases, when members of the community shared their real name on the platform (e.g., Facebook) I omitted the nicknames of content creators and players, avoiding reporting them even among my personal ethnographic notes, and filtering any sensitive information they had shared on social media.

### *3.2.3.2 Interviews and Participant Observation - Overt Ethnography*

Participants were informed of the recording of the gaming session, which occurred through a dedicated software: Open Broadcaster Software (OBS Studio), a free, open-source software for streaming and recording. The name of the Regiment is not reported on the basis of Bruckman's guidelines (2002), who suggest using a pseudonym instead. As for the interviews, being inspired by the game ethnography conducted by Boellostorff (2015) in the virtual world of *Second Life*, I proposed to the participants report their game nickname instead of their anthroponym in case they preferred it. Based on Turkle (1995), any details of one's personal life to which the subject referred to and which may eventually lead to identification have been omitted or replaced by a plausible fact. Since the interviews were audio-recorded to allow verbatim transcription of the interviews, the verbatim citations necessary to illustrate the concepts have been translated into English and their nicknames anonymized, reporting a simple code (e.g., P01, P02).

### *3.2.3.3 Analysis of Players' Communications*

Similar principles were applied to the analysis of communications. When transcribing the data, I embraced parts of the "heavy disguise" strategy suggested by Bruckman (2002), not reporting any personal information that people could have disclosed during the conversation, to ensure ethics in online research. Moreover, all the quotes reported in this

article have been further translated from Italian to English and double checked to ensure that identification could not occur.

### 3.3 Characteristics of the Sample

#### 3.3.1 Characteristics of the Participants Interviewed

Assuming that players with different levels of expertise could have a different experience of the game, I classified participants along their level of competence. The recruited participants, who were all casual players, namely, players that play for “fun”, can then be classified according to the average value of their K/D ratio, the hours spent in the game and the matches played. This results into three main categories, whose characteristics are illustrated in Table 4: (i) six master players, (ii) eleven average players, and (iii) ten novices.

Table 4. Categories of players and their characteristics

Category	Hours spent in the game (avg.)	K/D ratio (avg.)	Matches played (avg.)
Master	1273	1,48	4652
Average	250	0,75	1145
Novice	112	0,49	400

Almost all the participants (n = 22) were passionate video game players, having spent 10 years or more playing video games, and several had a long experience with other FPS, with the exception of few players (n = 7), who were recent fans of the genre (i.e., less than 5 years of playing FPS games). Instead, 12 participants had already tried other games involving a Battle Royale mode. With the exception of one participant, all the players were members of a regiment, having different organizational roles (e.g., founders, officers, or soldiers). The average age was 31.5 years (min age = 22; max age = 52; females = 4). A summary of the characteristics of the sample is shown in Table 5.

#### 3.3.2 Characteristics of the Gaming Session Analyzed

To recruit participants for casual gaming sessions, I implemented a dual-strategy approach. First, I engaged 12 players of the regiment in which I was involved. This group was intentionally selected to represent a range of skill levels and seniority, thereby providing a diverse initial sample. As a second recruitment method, a snowball sampling technique was adopted, asking participants to forward a recruitment message, describing the purpose of

the study to their fellow gamers. This method aimed to further diversify the participant pool, reaching 7 new participants. To recruit participants for professional matches, the strategy focused on identifying the most well-known players within the community, particularly those with significant followings and expertise in the game, while ensuring gender balance in the selection. This approach was key in capturing insights from individuals operating at a more professional level, allowing me to compare different facets of gaming experiences and behaviors.

The final dataset sample size aligns with previous research on similar topics (Tan et al., 2021; Tan et al., 2022; Sužnjević et al., 2009; Peña & Hancock, 2006). The data were collected between November 2021 and January 2022. Table 6 synthesizes the characteristics of the data set.

In the 19 matches played purely “for fun,” a total of 2865 utterances were recorded, while the 10 matches with a professional orientation saw 3050 utterances. The data primarily featured teams of four (41%;  $n = 12$ ), followed by teams of three (52%;  $n = 15$ ) and pairs (7%;  $n = 2$ ). All players were acquaintances, ensuring no random participants were involved and that full voice communication was captured without any dropouts. Match durations varied, ranging from 11 to 34 minutes, showcasing the diverse game lengths. The majority of games resulted in losses (80%;  $n = 16$ ), highlighting the challenging nature of the game and the low win rate. Victories occurred in two “for fun” sessions (GS10) and one professional session (GS15), while two sessions were cut short due to frustration or organizational issues (GS11, GS17). Streaming was mainly via Twitch (35%;  $n = 7$ ) and to a lesser extent, Facebook (15%;  $n = 3$ ). Tournament prizes ranged between 1,000 to 2,000 euros, with one tournament offering no prize. The dataset contains 5915 utterances, totaling around 7 hours and 38 minutes of gameplay, in line with prior studies (Tan et al., 2021; Tan et al., 2022; Sužnjević et al., 2009).

The games involved 38 different players in teams predominantly composed of males (71%;  $n = 27$ ) and fewer females (29%;  $n = 11$ ). It is noteworthy that some players participated in multiple matches. All participants were adults and played on a European server. Female representation among Esports players and streamers was notably low at only 17.6% of the subsample ( $n = 3$ ). The Esports players collectively had over a million followers.

I also included data from informal conversations with individuals during the study. Although I engaged in casual discussions with various individuals throughout the ethnography, I chose to systematically report and analyze the dialogues with nine specific participants due to the depth of their insights and experiences shared about the game. The characteristics of these participants are detailed in Table 7.

Table 5. Sample of participants interviewed

Sociodemographic data					Gaming experience			Gaming habits		Regiment
ID	Age	Gender	Education	Occupation	FPS	COD	BR	Time/week	Platform	Role
P01	23	M	High school	Student	3 years	Yes	No	2 hours	Console	Member
P02	38	M	Middle school	Soldier (Army)	No	No	No	25 hours	Console	Member
P03	32	F	High school	Worker	15 years	Yes	No	25 hours	Console	Member
P04	23	M	Middle school	Cook	10 years	No	No	20 hours	Console	Member
P05	24	M	Bachelor's degree	Student	10 years	Yes	Yes	7 hours	PC	Member
P06	25	M	High school	Vendor	10 years	Yes	Yes	15 hours	PC	Founder
P07	33	M	High school	Worker	15 years	Yes	Yes	25 hours	PC	Member
P08	40	M	High school	Executive	5 years	No	Yes	7 hours	Console	Member
P09	42	M	High school	Employee	25 years	Yes	Yes	5 hours	PC	Member
P10	24	M	Middle school	Warehouseman	15 years	No	Yes	10 hours	PC	Member
P11	52	M	High school	Employee	20 years	No	Yes	20 hours	Console	Member
P12	34	M	High school	Employee	15 years	Yes	Yes	10 hours	PC	Member
P13	37	M	High school	Worker	10 years	Yes	No	20 hours	Console	Member
P14	30	M	Middle school	Worker	1 year	Yes	No	20 hours	Console	Member
P15	31	M	High school	Employee	20 years	Yes	No	15 hours	Console	Officer
P16	30	M	High school	Worker	15 years	Yes	Yes	20 hours	Console	Officer
P17	34	F	Master's degree	Free-lance	10 years	Yes	No	15 hours	PC	Officer
P18	30	M	Master's degree	Free-lance	3 years	Yes	No	25 hours	PC	Member
P19	25	M	Bachelor's degree	Student	10 years	Yes	No	15 hours	Console	Officer
P20	31	M	Master's degree	Nurse (Army)	2 years	Yes	No	20 hours	Console	Officer
P21	22	M	High school	Employee	11 years	Yes	No	2 hours	PC	Member
P22	42	M	High school	Manager	10 years	Yes	Yes	15 hours	Console	ND
P23	24	F	Bachelor's degree	Student	1 year	Yes	Yes	10 hours	Console	Officer
P24	24	F	Middle school	Employee	8 year	Yes	No	10 hours	Console	Member
P25	41	M	Master's degree	Nurser (Army)	10 years	Yes	No	15 hours	PC	Officer
P26	26	M	High school	Unemployed	4 years	Yes	Yes	25 hours	PC	Officer
P27	24	M	High school	IT employee	10 ears	Yes	No	15 hours	PC	Member

Table 6. Characteristics of the gaming sessions analyzed

Game Session	Context	Squad	Females	Duration	Outcome	Utterances	Prize	Streaming platform
GS01	For fun	Quartet	4	00:22:15	defeat	298	GS01	For fun
GS02	For fun	Trio	3	00:12:22	defeat	110	GS02	For fun
GS03	For fun	Trio	3	00:13:41	defeat	164	GS03	For fun
GS04	For fun	Trio	1	00:08:25	defeat	101	GS04	For fun
GS05	For fun	Duo	1	00:06:01	defeat	96	GS05	For fun
GS06	For fun	Quartet	1	00:29:35	defeat	295	GS06	For fun
GS07	For fun	Quartet	1	00:22:06	defeat	335	GS07	For fun
GS08	For fun	Trio	3	00:18:00	defeat	149	GS08	For fun
GS09	For fun	Trio	3	00:20:00	defeat	202	GS09	For fun
GS10	For fun	Duo	1	00:08:02	defeat	62	GS10	For fun
GS11	For fun	Trio	1	00:20:00	win	177	GS11	For fun
GS12	For fun	Trio	1	00:18:15	defeat	215	GS12	For fun
GS13	For fun	Trio	1	00:06:01	defeat	42	GS13	For fun
GS14	For fun	Quartet	1	00:08:03	defeat	91	GS14	For fun
GS15	For fun	Quartet	1	00:12:00	defeat	126	GS15	For fun
GS16	For fun	Quartet	1	00:07:33	defeat	113	GS16	For fun
GS17	For fun	Quartet	1	00:05:12	defeat	42	GS17	For fun
GS18	For fun	Quartet	1	00:10:21	defeat	101	GS18	For fun
GS19	For fun	Quartet	1	00:12:17	defeat	146	GS19	For fun
GS20	Streaming	Quartet	0	00:12:11	defeat	184	GS20	For fun
GS21	Streaming	Quartet	0	00:07:33	defeat	76	GS21	Streaming
GS22	Streaming	Quartet	0	00:20:14	defeat	375	GS22	Streaming
GS23	Streaming	Trio	0	00:11:00	interrupted	220	GS23	Streaming
GS24	Streaming	Trio	0	00:19:20	defeat	280	GS24	Streaming
GS25	Tournament	Trio	0	00:25:03	defeat	463	GS25	Tournament
GS26	Tournament	Trio	2	00:31:18	defeat	467	GS26	Tournament
GS27	Tournament	Trio	0	00:28:12	win	455	GS27	Tournament
GS28	Tournament	Trio	1	00:14:32	interrupted	177	GS28	Tournament
GS29	Tournament	Trio	1	00:28:41	defeat	353	GS29	Tournament

Table 7. Characteristics of some of the players the ethnographer engaged in informal conversations with.

ID	Gender	Age	Type	Expertise
ICo1	M	33	Casual player	High
ICo2	M	23	Casual player	Low
ICo3	F	32	Casual player	Medium
ICo4	F	34	Casual player	Low
ICo5	F	23	Casual player	Low
ICo6	M	30	Casual player	High
ICo7	M	27	Founder of an Esports association	High
ICo8	M	26	Esports player	High
ICo9	M	29	Esports player	High

### 3.4 Data Analysis

During the ethnography, I collected a great amount of data. During the analysis, it was important for me to filter from the material all the elements that were not deemed necessary to the understanding of the phenomenon, also to better comply with an ethical approach (Spicker, 2011). In this section, I describe the analytical methods that were used to analyze the whole dataset. The first section describes how the data collected during the ethnography were analyzed to answer the research question. A separated section is dedicated to the analysis of the interviews and the analysis of game session transcripts, as this requires an explanation of the theoretical framework used to code the data and elaborate the codebook.

#### 3.4.1 Analyzing Data: The Role of The Ethnographic Diary

The ethnographic diary constituted a preliminary level of analysis of the collected data: here, I summarized the relevant information that I gathered from different sources and reported my personal reflections and insights emerging from their examination. As the fieldwork continued, I began to identify patterns across the notes. Therefore, I elaborated tentative hypotheses emerging from this preliminary analysis, and identified new aspects that were worthy of being explored. As a way of example, cheating emerged as a phenomenon that often recurred among the informal conversations of the members of the Regiment, the members of the Italian community at large, the conversations of Esports players, and the content published by different Italian content creators. The importance of this particular topic was confirmed when I started conducting the first interviews to the participants, who were left free to bring up topics that were deemed relevant for their

experience of the game. Therefore, I reworked the research questions, adjusted the interview track, and started collecting new data.

In addition to that, for the whole duration of the data analysis and even during the writing phase, I employed a “participant researcher” strategy (LeCompte & Goetz, 1982), which consists in seeking the aid of the informants to confirm or adjust the interpretation of data. I used the WhatsApp channel of the regiment, asking questions regarding the phenomenon under investigation, often using a semi-informal tone such as: *“Hello everyone, since the launch of the new map I noticed that less people are complaining about cheaters that infest the game. What do you think? Do you still believe that cheating is a problem or there might be other reasons why people talk about it less?”*<sup>1</sup>. The goal was to refine my understanding of the Warzone world and double-check with them my personal interpretations. Moreover, I involved a restricted group of four individuals to assess more in-depth my reflections, discarding interpretations that did not fit the participants’ understandings and integrating some that I had not envisioned by my own.

### **3.4.2 Analysis of Texts: Interviews, Notes, And Informal Conversations**

The interviews and the relevant quotes reported in the field notes, which were gathered from the informal conversations and the content found online, eventually underwent a thematic analysis (Braun & Clark, 2012; Saldaña, 2021), which is a widely used method for its flexibility and independence of theory and epistemology. I adopted an inductive, rather than a hypothetical-deductive stance (Patton, 1990). I applied open, axial, and selective coding techniques (Strauss & Corbin, 1990). First, I generated 136 initial open codes, which corresponded to the data characteristics that were considered relevant. Data were broken down labeling sentences with a corresponding code. In a second phase, I grouped the codes into 30 axial categories. Finally, I identified different recurrent themes across the data, which represent the final 10 selective codes.

### **3.4.3 Analysis of Communication**

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<sup>1</sup> Conversation retrieved on January 16, 2022.

My analytical process involved several steps: i) transcribing the speech to text, ii) qualitative coding of individual player utterances, and iii) calculating the frequency of the codes. Detailed descriptions of these steps follow.

*Transcribing Speech to Text.* The video recordings were manually transcribed. The deep involvement with the community was essential for accurately interpreting and documenting the unique language used by players, including non-verbal cues like pings. My expertise also helped in contextualizing utterances, such as differentiating between communication directed at teammates or the audience and distinguishing commands from suggestions. To maintain confidentiality, I adopted the “heavy disguise” strategy suggested by Bruckman (2002), not reporting any personal information that people could have disclosed during the conversation, to ensure ethics in online research; moreover, all the quotes reported in this article have been further translated from to English and double checked to ensure that identification could not occur. Finally, speakers’ identities were anonymized. Inaudible segments were marked accordingly, and in instances of overlapping conversations, I tried to document as much as possible.

*Developing the Coding Scheme.* The coding framework for categorizing utterances was inspired by existing communication coding systems found in literature, particularly those used in studies of team-based communication. My primary reference was Tan et al. (2022), whose coding scheme was selected for its relevance to my study’s context—the interaction among players in a team-based multiplayer game, and its methodological alignment with my approach to communication analysis. I first conducted an extensive review of a dataset subset, specifically 2,534 utterances from various matches, to assess the applicability of the chosen framework and identified necessary modifications and performed an initial coding applying the chosen theoretical frameworks to text segments. However, when existing categories proved inadequate for my observations, new categories were introduced. This iterative process led to the refinement of the final coding scheme, which was expanded to include 11 new categories, capturing the diverse conversational elements observed in Warzone. The final revised scheme, comprising 26 communication categories plus one “miscellaneous” category, is detailed in Table 8, complete with newly added categories (indicated by an asterisk\*) and fresh examples from the dataset.

Moreover, in order to facilitate subsequent data analysis and interpretation, the coding scheme was divided into larger abstract categories based on their function and themes, as shown in Table 9.

Table 8. Final coding scheme for communication content types, with new categories marked by \* and new examples drawn from data.

Content type	Description	Examples
Suggestion	A propositional statement often using modal verbs like “can”, “could”, and “should”, inviting or proposing potential actions or strategies.	“Maybe try flanking them”; “Consider using a smoke grenade here.”
Opinion, Analysis, and Evaluation	Reflective statements offering personal judgment, analytical thinking, forecasting, or theoretical consideration, sometimes articulated as part of a rhetorical thought process.	“Pushing now might spread us too thin”; “Their sniper has been quiet, watch for an ambush.”
Agreeing and Acknowledgement	Responses that validate, concur with, or recognize the validity of a prior statement, directive, or observation.	“Sure”; “Okey”; “Done.”
Disagreeing	Responses that express divergence from, or rejection of, a prior point without necessarily using a direct negation.	“That spot's too exposed”; “Better not, they've got the high ground.”
Observation	Neutral statements that call attention to facts or changes within the environment or situation, devoid of the speaker’s personal analysis or action.	“Enemy UAV overhead”; “Gas is shrinking the area”
Questions/Inquiry	Inquiries made to gather information or seek affirmation, not accompanied by advice-seeking or assistance requests.	“Status on ammo?”; “Enemy positions confirmed?”
Answer and comments	Responses to inquiries, including straightforward affirmations or negations, as well as elaborative comments.	“No, don't come”; “Yes, here you go.”; “ah, eh”
Sharing Intention	Communications disclosing intentions or preferences, self-contained without soliciting external feedback or delivering situational assessment.	“I'm coming”; “I'm going downstairs.”
<b>*Game State</b>	Descriptions of the current conditions of the gameplay (e.g., enemy team) influenced by the speaker’s actions, indicating consequential changes in the environment.	“Cracked”; “Enemy team killed.”
<b>*Personal State</b>	Personal disclosures detailing the speaker’s condition or circumstances within the game, highlighting the personal impact of gameplay events.	“I'm pinned down!”; “I am on the second floor, guys!”
<b>*Team State</b>	Observational accounts detailing the collective status or conditions affecting the team, such as resource availability or strategic positioning.	“We're outnumbered at this point”; “Hey, you don't have any left plates”
<b>*Asking for Help</b>	Statements where individuals ask for assistance, support or resources. This can include armor, plates, ammunitions, requests to be covered or be respawned. They can also be indirect.	“I need backup!”; “Anyone got spare ammo?”
<b>*Offering Help</b>	Proactive declarations of intent to provide support or assistance, spanning physical, emotional, informational, or practical dimensions.	“I can cover you if you run now”; “Do you need any plates”
<b>*Giving Help</b>	Actions or communications that respond affirmatively to requests for support, fulfilling the aid sought by team members.	“Dropping a health pack for you”; “Covering fire on your mark!”

Encouragement	Positive affirmations meant to inspire, recognize, or uplift team members, enhancing team spirit and confidence.	“Keep it up, we're breaking through!”; “Almost there, stay sharp!”; “Nice shot!”
Thanks and Welcome	Expressions of gratitude or reception, fostering a culture of appreciation and mutual respect.	“Thanks guys”; “No problem.”
Apologies and Remorse	Expressions of regret or guilt over past actions or decisions, articulated directly or through self-reflection.	“Misjudged that one, my fault”; “Should've been quicker, sorry.”
Non-work or Social	Conversations that may pertain to the game contextually but are not aimed at task completion, encompassing social interaction and engagement.	“Grab some snacks after this?”; “Who else is up for another round?”
Anger and Frustration	Emotional expressions of discontent or annoyance, directed internally or externally, reflecting immediate emotional states.	“Fucking cheater!”; “They've got us cornered again!”; “This lag is unbearable!”
<b>*Fear and Worry</b>	Expressions revealing apprehension or concern, potentially affecting or reflecting the team's sentiment.	“This quiet is making me nervous”; “I hope we're not walking into a trap.”
<b>*Joy, laugh and relief</b>	Manifestations of happiness, amusement, or comfort, shared or experienced individually, influencing team ambiance.	“We pulled it off!”; “That was too close for comfort, huh?”
Humor and Taunting	Comments or actions characterized by wit or mockery, aiming to amuse or provoke, shaping the game's social dynamics.	“Try to keep up next time!”; “Missed me by a mile!”
<b>*Thinking Out loud</b>	Soliloquies where the speaker articulates thoughts or considerations without the intention of external dialogue or action.	“I'm looting so much here”; “I love this box.”
<b>*Out-of-game</b>	Communicative acts that fall outside the gaming narrative, addressing personal or external circumstances unrelated to the game's immediate context.	“Can you please close the door, mom?”; “This is the last game, mom”
<b>*Accountability</b>	Justifications or explanations provided for in-game actions or outcomes, often focusing on personal responsibility or situational factors.	“Got caught in the crossfire there”; “That is a cheater, for sure”
Miscellaneous	Statements that do not fall under any other category or are ambiguous due to transcription limitations.	“What is... [inaudible]”

Table 9. Abstract communication categories incorporating the 26 communication content types

Category	Description	Content type
<b>Situational Awareness</b>	It pertains to the continuous update and interpretation of the game’s dynamic environment. It encompasses the communication of real-time observations, status reports, and environmental changes that are crucial for informed decision-making and situational adaptation.	Sharing Intention
		Observation
		Questions/Inquiry
		Answer and Comments
		Game State
		Personal State
<b>Strategic Communication</b>	It involves the exchange of directives, tactics, and plans that guide the team’s overarching strategy. It is the proactive dissemination of actionable information that informs decision-making and prioritizes objectives.	Command
		Suggestion
		Opinion, Analysis, and Evaluation
		Agreeing and Acknowledgement
		Disagreeing
<b>Team Support</b>	This category focuses on the communication that facilitates mutual assistance within the team. It includes calls for help, offers of support, and the provision of assistance, emphasizing the collaborative nature of team play.	Asking for Help
		Offering Help
		Giving Help
<b>Team Morale</b>	It encompasses communications that boost the spirit, cohesion, and motivation of the team. It consists of expressions of gratitude, words of encouragement, apologies, and other interactions that enhance team unity and collective identity.	Apologies and Remorse
		Encouragement
		Thanks and Welcome
		Non-work or Social
<b>Emotional Responses</b>	It covers the spectrum of emotional expressions that reflect the team’s response to the game’s events. It includes displays of frustration, excitement, worry, or joy that can influence team dynamics and morale.	Anger and Frustration
		Fear and Worry
		Joy, laugh, relief
		Humor and Taunting
<b>Internal Monologue</b>	It captures the personal and introspective dialogue of an individual. This can be reflective thoughts spoken out loud without the intention of direct communication to others, or self-talk that helps in personal strategy formulation and stress regulation.	Thinking Out Loud
		Out-of-game
		Accountability

*Coding the Data.* To ensure coding reliability, an iterative approach was adopted. The process involved reflexive practices, critically evaluating and revising codes to ensure they accurately represented the data. New categories emerged from this process and were incorporated into the coding scheme. A thorough re-reading was conducted for code verification, including new categories. Three rounds of re-reading were done: the first on 505 utterances with 56 modifications (11.1%), the second on 1315 utterances with 76 changes (5.7%), and a third on 2709 utterances with 45 changes (1.6%). Finally, to validate the coding framework, a subset of data was re-analyzed after three months to check for consistency. Results were compared with initial coding for reliability and necessary adjustments. To counter potential biases and subjectivity, especially given the solitary nature of the coding, I kept a reflective journal and consulted with participants for clarification, especially for interpreting tone and intention.

Since utterances often contained multiple communication categories, they were associated with up to three different codes. For example, “*It’s down here*” could be categorized both as “Observation,” and “Answer, and Comment”. This multi-code approach allowed for more detailed analysis, considering each communication instance on its own merits.

*Quantitative analysis.* To calculate the average number of words spoken per minute by each player, I initially counted the words for each minute of gameplay. By aggregating these counts and dividing the total by the number of minutes played, I obtained an average word-per-minute rate. This calculation allowed to compare the communication patterns across different player groups. Following this, I determined both absolute and relative frequencies for each type and category of communication. The absolute frequencies provide a direct numerical representation of the data, while the relative frequencies, presented as percentages, show the proportion of each communication content type and category in relation to the overall amount of communication instances observed.

The analysis aimed to delve into the variations in communication patterns among players, paying particular attention to differences across player types, namely casual gamers versus Esports players. Given that Esports players in Warzone participate in both streaming and competitive play, I further divided Esports players into two distinct groups based on their observed “context”: *streaming* and *tournaments*.

**CHAPTER 4. FINDINGS FROM THE ETHNOGRAPHY: SOCIAL  
INTERACTION, ANTISOCIAL BEHAVIORS AND  
COMMUNICATION PATTERNS IN WARZONE**

## Introduction

In this chapter, I explore the intricate interaction dynamics of Warzone players, focusing on their engagement within the Warzone community, their interactions within specialized groups known as Regiments, and their communication patterns. This exploration is particularly significant in understanding the *social and organizational structure* of Warzone, as it sheds light on how players form connections, develop in-game strategies, and navigate the challenges and opportunities of this virtual environment. Another central aspect of this investigation is the critical role of *communication* in Warzone. In this and many other multiplayer games, gameplay is heavily dependent on verbal interactions, predominantly facilitated through virtual platforms and microphone-based communication. A detailed examination of communication patterns provides critical insights into player dynamics, ensuring comprehensive understanding of their strategies, emotional states, and social interactions.

To provide a robust understanding of these dynamics, this study employs a diverse set of data sources, including transcriptions of in-game conversations, player interviews, analysis of social media interactions, and direct observations. Such a methodological triangulation not only enriches the findings but also strengthens their validity. However, it is important to note that different sections of this chapter draw more heavily on specific data sources: for instance, the initial section predominantly relies on observations, interviews, and my ethnographic experience, while the last one is anchored in a detailed coding analysis of communication patterns, derived from transcribed conversations among 38 players across 29 gaming sessions. This analysis is supplemented with players' interviews and both direct and indirect observations, allowing for a comprehensive exploration of themes such as emotional expression, conversation structure, and the impact of player skill levels.

This comprehensive approach aims to unravel the complexities of in-game interactions and illuminate how players' communication strategies, emotional responses, and social dynamics intertwine within the Warzone experience. The outcomes of this analysis offer significant contributions to the field, elucidating the multifaceted nature of player interactions in virtual gaming environments and providing insights into the social underpinnings that shape these interactions.

# 1. Social Dynamics. Navigating Socialization, Learning, and Community Engagement in Call of Duty Warzone

In this first part of the results, I describe the social landscape of Warzone, which provides the context for the player experience. Through interviews and participant observation, I explore how players, from newcomers to experienced ones, navigate the game’s challenges, form bonds, and approach gameplay. I also investigate the role of figures such as content creators and streamers in shaping the casual player experience.

## 1.1 Socialization and Learning

This theme explores how individuals become part of the Warzone community. Through interviews and participant observation, I investigate their learning processes, community integration, and the impact of these experiences on their social interactions. Understanding these dynamics is essential to grasp the social underpinnings that are fundamental in a multiplayer environment like Warzone and their influence on personal gameplay experiences.

The main takeaways of the section are reported in section 1.1.4 and summarized in Table 1.

Table 1. Socialization and learning in Warzone: summary of results

Section	Key contributions
<b>1.1.1 Engagement Dynamics in Call of Duty: Warzone</b>	Warzone’s player base is diverse, encompassing both seasoned FPS gamers and newcomers, engaged during the COVID-19 pandemic. During this period, Warzone served as a significant social platform, facilitating socialization and community bonding.
<b>1.1.2 Learning the Game: The Importance of Social Relationships</b>	Learning in Warzone varies greatly among players: some learn through guidance from experienced friends, while others rely on streamers and online content. Social interactions within the community are crucial for navigating the game’s complexities.

<p><b>1.1.3 Content Creators and Streamers: How They Shaped Gameplay</b></p>	<p>Streamers and content creators play a pivotal role in shaping gameplay strategies and norms. They act as informal educators, particularly for new players, influencing gameplay styles and strategies. This marks a shift from the pre-streaming era, where gameplay was more individually developed.</p>
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### 1.1.1 Engagement Dynamics in Call of Duty: Warzone

A substantial proportion of the interviewees (n = 21) are experienced gamers, with many having cultivated a profound passion for video games, especially within the shooter genre, over many years or even their entire lives. A significant number of these players exhibit a strong allegiance to the Call of Duty franchise, having engaged with numerous preceding titles (n = 17), while the remainder possess experience with at least one other FPS game, such as *Battlefield*, *Counter-Strike: Global Offensive (CS: GO)*, *Apex Legends*, *PlayerUnknown's Battlegrounds (PUBG)*, *Halo*, or *Medal of Honor*. This extensive gaming background, as highlighted by the participants, is of utmost importance, given that many fundamental mechanics and strategies in Call of Duty have evolved from these earlier games. Therefore, for these enthusiasts, transitioning to Warzone represented a natural evolution in their gaming journey, constantly seeking new challenges and experiences.

However, it is noteworthy that within the sample, a smaller group of participants (n = 6) represents individuals who do not identify as lifelong gamers nor show a specific preference for FPS games, including the Call of Duty series. This diversity points to a broader trend where the gaming landscape is increasingly appealing to a more diverse audience, including adults without specific gaming experience or interests. According to my observations and informal conversations with players, a key factor in attracting and retaining such a diverse player base to Warzone is its *free-to-play* model (see Chapter 3 for further details), especially significant during the COVID-19 pandemic: this period, marked by the suspension of normal life routines, offered a unique opportunity for individuals to engage in gaming not just as a pastime, but as a means to fulfill social needs and forge connections.

This period saw an increase in gaming hours, with some individuals establishing regular routines or sessions for playing the game. This surge in online multiplayer gaming during the pandemic, observed both in Italy and globally, aligns with prior research findings illustrating how players turned to video games as a coping mechanism to mitigate the impact of reduced social interactions (e.g., Boldi et al., 2022; Kleinman et al., 2021; Ballou et al., 2022). Many newcomers to Warzone were introduced to the game by friends who were already immersed in it, as described by P01, who said that joining Warzone allowed him to spend more time with a friend who had encouraged him to join the game. Another illustrative example is provided by P05:

*“For example, during the Covid lockdown this year I played a lot with it and also because always during the period since they are closed at home... There were also many friends of mine who played it, so it happened even 4 hours a day and now I will play it an hour a day but not even every day. (...) Before we had a team of players that used to play together almost every evening for at least 4-5 months, always there, connected at 10 PM.”*

This intense involvement fostered a deep connection to Warzone, further intensified by players’ profound disappointment when the game’s map was altered, disrupting the familiar landscape of Verdansk and the memories associated with it. Nostalgia for these pandemic-era gaming experiences became a common theme in both casual conversations and online content. A post from the COD Warzone Facebook group encapsulates this sentiment among numerous players, of which an excerpt is quoted:

*“(...) Our regiment XXX would land just about anywhere; we always met a rough end. Let's head to ‘XXX’s house,’ come on, I've pinged ‘XXX’ (a fond nickname for the tents near Stadium). Each squad had its rituals, its style, its coded phrases. Verdansk, our battlefield, the countless hours spent there. It’s no coincidence that these days are filled with sentimental posts: perhaps the folks at Activision don't know or don't care, but in these difficult times, their commercial product has united many people, sparked friendships and romances, forged bonds—and that’s a bundle you can't buy, not even with CP.”*

This convergence of experienced and novice players within Warzone underscores a unique sociocultural phenomenon, as the game's allure extended beyond traditional gaming communities, reaching a wider and more varied audience. Participants' narratives reveal how Warzone served as a "sanctuary," offering camaraderie, and a semblance of normalcy during the pandemic and indicates that the game was not only a form of entertainment but a platform for social interaction and community building. In the next subsection it will be stressed how players learn to play by leveraging their social interactions.

### **1.1.2 Learning the Game: The Importance of Social Relationships**

#### *1.1.2.1 Mentorship*

Unlike traditional FPS games, Warzone's Battle Royale mode requires on-the-spot strategic thinking; its large map offers extensive exploration opportunities, starting from a slower pace and gradually intensifying into a high-stakes survival challenge. This offered a unique learning curve compared to traditional FPS games, linked to the diverse backgrounds of players, as explored in the previous section: newcomers are more challenged by the demands of the game, compared to more seasoned players. P10 highlights the advantage of having previous gaming experience:

*"I think this is something that varies from person to person ... I immediately learned what to do on video games... I don't know, I think.... I think it's intuition, maybe I've always played... I thought I also read this thing that video games develop intuition... I think that's because usually when I download a new game, maybe one I've never played, I understand the dynamics very quickly, it doesn't take me long..."*

The learning style also greatly varies among players: while some learn through the guidance of experienced friends, others adopt a self-taught approach or seek knowledge from streamers and content found online. Social interactions appear to be critical in navigating the complexities of Warzone, especially for newbies, since less expert players can rely on the guidance from more seasoned peers, who can provide a sort of "mentorship." Novice players benefit from the mentorship of seasoned veterans, who offer guidance ranging from the fundamentals of gameplay to advanced strategies involving movement and enemy engagement. In other cases, this mentorship can extend

to paid coaching sessions conducted online, where expert players provide tailored advice and strategic insights for a fee, especially to casual players. This dynamic is exemplified by P16, an expert player, who recounted how he used to set up one-on-one training sessions on multiplayer maps for new players, offering tailored advice on game basics and strategic play. Another player (P02) shared that, after experiencing difficulties with his performance in the game and not enjoying it, he purchased a coaching package from a well-known professional Esports organization, claiming that he was satisfied with the investment, as it helped learn the correct strategies to effectively play the game, improving his skills and enjoyment.

#### 1.1.2.2 Gameplay Patterns

As players become more familiar with Warzone, they typically develop a consistent gameplay pattern or *script*. This script, as detailed by P07, usually involves a linear and chronological series of actions that must be performed during the game. The game begins with players launching from an airplane and parachuting down to the map, which makes the choice of a “landing spot” critical. After selecting a strategic landing spot, players must gather resources to purchase strategic loadouts, engage in contracts for additional perks, and move strategically to evade other players. This sequence of actions primarily characterizes the early phase of the game. With progression, players delve into more complex strategies, as elaborated by P15:

*“Over time, we began to understand the nuances of weapon customization, the tactical approach to contracts, their purposes, and the importance of vehicle usage to avoid traversing the entire map on foot... We also learned about different gear and lethal items, like the heartbeat sensor, which helps in locating enemies (...) Then, we realized the strategic value of initially selecting one class for our loadout and then switching to a 'Ghost' class later.”*

The learning process in Warzone is continuous, with game updates like weapon adjustments (e.g., “nerfing” to reduce a weapon’s power and “buffing” to increase it) and map changes, necessitating ongoing adaptation. Moreover, mastering the game mechanics is just the beginning, as technology plays a consistent role: players must learn how to optimize their settings for enhanced performance, which includes fine-tuning

graphics settings and sound options, purchasing robust hardware and accessories, like high-quality hard drives, advanced graphics cards, top-tier monitors, responsive mouse, or pads; ensuring a stable and fast internet connection is also key to minimize lag and enhancing responsiveness. These technical aspects, though initially complex, are recognized by experienced players as crucial for enhancing gameplay.

In conclusion, Warzone players have different learning methods, depending on how they are engaged within the game's community. Some players learn on their own, while others engage with the community for guidance and support, significantly influencing their ability to adapt to Warzone's changing gameplay. Importantly, the role of streamers and online content creators becomes a major factor in this learning process, indicating a shift towards collaborative learning and knowledge sharing, as explored in the next subsection.

### **1.1.3 Streamers: How they Shape Gameplay**

Several participants' accounts illustrate the pivotal role of streamers and content creators in shaping their Warzone gameplay experiences. Streamers have a relevant role in teaching gameplay strategies - as previously reported, through offering paid mentorship and coaching sessions, and setting standards. P03, for instance, describes learning the game by watching more practiced individuals and assimilating strategies from their gameplay, while P04 attributes their learning primarily to YouTube and Twitch, indicating that while they acquired some knowledge from friends, most of their skills and strategies were developed through observing and imitating online content. As he reported:

*“At the beginning, not knowing how to play Warzone anyway, I watched streamers, I followed them step by step (...) if I have to say one thing, I learned it was the way you have to see the position of a Sniper, how they do scoops and things like that we say mostly.”*

Moreover, players commonly watched streamer videos and live streams to understand the nuances of the game, such as the utility of *contracts* - that are small missions that can be completed to earn bonuses and cash, and movement tactics. Viewing the *kill cam*, that is the replay of the player's "death" from the perspective of the enemy who has killed, was also a common practice recommended by many streamers and adopted by more expert players to identify mistakes and improve their tactics. P18 said that he incorporated

streamer content into their daily routines, such as watching gameplay during breakfast or following YouTube channels that offer specialized tutorials for beginners or commentary on tournaments. In this sense, streamers can act as informal educators, providing models and standards for gameplay. This has significant implications as streamers can influence the definition of “correct” ways to play, thereby shaping players’ styles, strategies, tactics, and even preferences in weapons and equipment.

While not all players emulate streamers, it appears that a notable portion acknowledges their influence in providing suggestions or inspirations to the gameplay, at least. However, as recognized by P10, this is a marked shift from the pre-streaming era when gameplay styles were more personally developed and game-specific quirks (like *glitches* or *tricks*) were discovered individually or serendipitously, leaving more space to personal creativity:

*“I like to experiment (...) maybe you discover very strange builds, for instance AK47 built like any other long-range assault that if you take away the kick it doesn't recoil anymore, that doesn't make sense... But if you don't try it, you don't mess with it, you don't discover it... And 10 years ago, when I started there weren't all these things, it was much more difficult, all these videos that go around on social media are basically tutorials ... You used to stand in front of the console and say, oh well, let's see how it works (...) some techniques are now watched on YouTube, and it comes very easy to you.”*

These findings indicate that the gameplay experience can be significantly mediated by streamers and content creators, who introduce and popularize various game aspects. This influence is particularly pivotal for new players who, at the beginning, may not have an established network of friends or a gaming community to guide them. In such cases, content creators become key sources of learning and inspiration. However, it is important to note that this individual engagement with content creators is just one facet of the Warzone experience. As we will explore in the following subsection, the majority of players do not experience the game in solitude, but they become part of larger gaming communities and through interactions with other players.

#### **1.1.4 Main takeaways**

**Engagement Dynamics.** Warzone's player base is varied, including seasoned FPS enthusiasts and novices who aren't typically drawn to such games. This mix reflects the expanding appeal of video games to a broader audience, a trend that intensified during the COVID-19 pandemic. During this time, gaming became a vital social venue, not just a pastime, as players sought connection and a sense of normalcy through online multiplayer sessions and community building within Warzone.

**Community Integration and Learning.** Warzone's gameplay and structure present a unique learning challenge. Players start with a basic "script" of essential strategies and tactics, which expands as they gain experience and learn more complex approaches. This learning is heavily social, with newcomers often guided by more seasoned players or turning to streamers and online resources. The dynamic nature of the game, with frequent updates by developers, also demands continuous learning and adaptation.

**Influence of Content Creators and Streamers.** Streamers and content creators significantly influence Warzone's strategic and stylistic norms. They act as informal educators, setting gameplay models and standards, especially for newer players. Their impact includes shaping play styles, strategy choices, and equipment preferences. However, this role is a double-edged sword: while streamers standardize gameplay knowledge, they also diminish the personal discovery and individual style that characterized gaming before the streaming era, marking a shift in how game skills and knowledge are shared.

## **1.2 Gaming Organizations: The Life of Regiments**

As highlighted above, the social experiences of Warzone players within the community are diverse and multifaceted. Initially, many players find themselves independently navigating the game's vast and unfamiliar landscape, often teaming up with random teammates. The shift from this solitary approach to a more structured and organized form of gameplay frequently occurs through joining Regiments. These entities are akin to "real" organizations due to their structured nature and communal objectives. Drawing on Rapp (2018b), gaming social structures mirror real-world organizations by cultivating specific, shared aims, fostering instrumental relationships among members and towards the collective, and establishing formal norms and roles (see also Weick, 1979). My ethnographic

research within a specific Regiment and interviews with players who are affiliated to the regiment has offered valuable insights into the formation, development, and inner workings of these complex social structures.

In this section, I explore Regiments by examining how players integrate into these special types of organizations, the evolving dynamics of Regiments, and even the reasons and implications of players leaving them. These insights are pivotal in understanding the nature and quality of social interactions and community building within Warzone and provide a foundation for discussing how these organizational structures significantly shape players’ gaming experiences.

The main takeaways of the section are reported in section 1.2.4 and summarized in Table 2.

*Table 2. The Life of Regiments: Summary of Results*

<b>Section</b>	<b>Description</b>
<b>1.2.1 Recruitment and Regiments’ Styles</b>	Players often start by “solo queuing” before joining regiments through co-optation or recruitment via online platforms like Facebook and Telegram. Regiments vary in their focus, ranging from competitive play to more casual, social interactions. Recruitment posts often specify desired traits such as skill level or geographic location, and entry into regiments can transform a player’s gaming experience, offering more stable and cohesive group play.
<b>1.2.2 Socializing in the Regiment</b>	Regiments in Warzone are less structured than “guilds” typical of MMORPGs games, focusing on enjoyment and camaraderie. Activities include finding players, seeking advice, sharing game news, organizing tournaments, and discussing non-game topics. Regiment administrators play a crucial role in maintaining harmony and setting rules. Real-life friendships often form, extending the gaming community beyond the virtual realm.
<b>1.2.3 In and Out of the Regiment</b>	Regiments have fluid boundaries with members frequently joining and leaving, reflecting changes in personal habits or gaming interests. Reasons for departure vary, including disillusionment with internal dynamics, pursuit of more competitive play, or interpersonal conflicts.

**1.2.1 Recruitment Regiments’ Styles**

If they are not already actively engaged within the community, Warzone players can resort to playing with random teammates, a practice known as “solo queuing.” This involves entering a lobby and forming temporal teams with players from different parts of the world. While this method allows for a diverse range of interactions, it often lacks the stability and cohesion found in more organized groups, often leading to a less satisfying gaming experience for some. Consequently, this type of solitary gameplay, although a common starting point, can lead to a decline in interest over time. This was exemplified by P14, who shared that his interest to and engagement with the game faded while playing only with random teammates, only to be reinvigorated after joining a regiment. This example highlights the significant impact that stable group integration can have on player experience in Warzone.

Entry into Regiments can occur through co-optation, such as through friendships. However, Regiments also welcome individuals who initially have no connections and are isolated: in this case, player recruitment and community building are facilitated through various groups on platforms like Facebook and Telegram. A typical process involves “officers”, that are administrators and founders of Regiments, posting on different Facebook groups, seeking players to enrich their Regiment. These groups usually offer structured experiences, with selection criteria that might include skill level, gender, or geographic location. For example, more competitive groups might seek players with specific profiles, such as a minimum kill-death ratio (KD) and teamwork skills, as evidenced in recruitment posts like that reported as in Example 1:

*Example 1. A Recruitment post on a COD online community on Facebook (Call of Duty: Warzone)*

*“LOOKING FOR PLAYERS |*

*We are already a strong group |*

*Desired stats: 1.7+ KD (global), 20k+ kills (Caldera), available to play evenings after 9 PM”.*

In other instances, players might seek companions for a particular gameplay style. Some groups prioritize enjoyment and collective play, while others might focus on connecting players from specific regions of Italy, potentially for offline meetups as well. In addition to skill level and play style, age can also be a factor in regiment recruitment, aiming to

cultivate a group of mature, like-minded individuals with the intent to create a harmonious and mature gaming environment. Another relevant example (Example 2) is offered by a player who regularly used to post a recruitment message in a casual and inviting tone, aiming to attract players who often play alone.

*Example 2. A Recruitment post on a COD online community on Facebook (Call of Duty: Warzone)*

“WANT TO BE PART OF A COMMUNITY?

We play both WARZONE and VANGUARD MULTIPLAYER on multiple platforms!!!

If:

You often play alone; 🙄

You're tired of people quitting mid-game; 🏃

You throw semtex and end up killing yourself; 🚫

You crash with your parachute; 🌟

You always die in the gas; 🎧

You're so unlucky that while you're in a fight, your wife unplugs your play/pc/xbox



If you have great skills and want to share them with us, helping to secure some wins...



You can be part of our community! 🤗

Our great ambition? Thousands of players who finally don't have to play alone!

We're always looking for new people who don't ruin the game for their teammates but aim for victory and can laugh off a loss!

We are XXX [anonymized], one of the first regiments in WARZONE, with the intent to create ONE BIG FAMILY!

✅ FROM TODAY NO CLAN TAG OBLIGATION, THOSE WHO FEEL AN INTEGRAL PART OF THE GROUP CAN USE IT, OTHERS ARE FREE TO KEEP THEIR OWN, BUT IT WOULD BE NICE TO BE ALL UNITED.

Before contacting us, we ask for some basic requirements.

Are you over 18 years old? 🚫18

Do you have a microphone and headphones? 🗣️🎧

Do you have Telegram (Or are you willing to download it?) 💬

Are you willing to join a group full of messages? 📁

Are you ready to make lots of new friends?

Then don't just keep reading!!!”

Once initial contact is established, the recruitment process can take various forms. For some, it can be a straightforward invitation to join the group, where newcomers are introduced to the Regiment’s rules and asked to agree to them. In other cases, the process is more elaborate, involving a “trial” period where potential recruits play several games with the administrators and members of the group so that they can assess gaming competence but also gauge a player’s attitude and values. For example, in the recruitment for a Regiment administered by PL07, as he recounted, the emphasis was initially less on players’ gaming skills and more on their ability to cooperate and maintain emotional composure during gameplay - for instance avoiding bad language towards opponents.

In conclusion, Regiments establish different methods to recruit and integrate players into their structures and employ different criteria to ensure they build a team that aligns with their characteristics. As a matter of fact, as it will be explained in the next subsection, the experience of living in a Regiment goes beyond the simple fact of avoiding solo queuing or having the opportunity to organize tournaments and private matches with fellow players.

### **1.2.2 Socializing in the Regiment**

Each Regiment in Warzone is defined by its unique set of rules, characteristics, and methods for managing player relationships. Regiments primarily function as collectives of individuals united by their desire to play together, engage in conversation, compete, and forge friendships. In contrast to *guilds*<sup>2</sup> in games like World of Warcraft, which require substantial organizational efforts for *quests*<sup>3</sup> and *raiding*<sup>4</sup> (Rapp, 2020), Warzone Regiments typically have a less complex internal structure, placing greater emphasis on enjoyment and camaraderie rather than intricate game-task organization. It is common for

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<sup>2</sup> Guilds are organized groups of players that come together in games to achieve common goals, share resources, and participate in group activities, which require substantial organizational efforts for quests.

<sup>3</sup> A quest in video games is a task or a set of objectives given to the player to accomplish. Completing quests typically rewards the player with experience points or opens up additional gameplay features.

<sup>4</sup> Raiding refers to a gameplay mechanic predominantly found in massively multiplayer online (MMO) games, involving large groups of players working together to defeat powerful non-player characters (NPCs).

Regiment members to extend their connections beyond the virtual realm, with many forming real-life friendships and meeting in person.

Regiment activities and discussions revolve around: i) finding players to play with, ii) seeking advice (e.g., which weapons to develop for the loadout, game technical issues, advice on setting up for optimal graphics and performance), iii) sharing game news and updates, iv) sharing clips and images of personal gameplay achievements and victories, v) organizing tournaments and private matches, and vi) discussing topics that are not necessarily related to the game. These conversations typically occur on WhatsApp or Telegram, and some more expert players may also use Discord. In every Regiment, there are always one or more administrators responsible for the Regiment's smooth functioning, establishing ground rules, managing internal problems, setting recruitment rules, or moderating conflicts among players.

Despite the way administrators exert their control over the Regiment varies consistently, this activity often requires a significant amount of time and energy. My understanding of this stems from my firsthand experience as an active and ongoing member of the Regiment, where I have been entrusted with management and moderation responsibilities. These duties have given me deep insights into the Regiment's dynamics, the challenges faced, and how recreational activities often overlap with work-like tasks, as moderating the group requires considerable patience and time.

An extract from the conversation of a regiment of some of the players of the gaming sessions GSo8 and GSo9 illustrates a typical dynamic occurring in the Regiment: an individual looking for fellow players to form a squad and play, the rising of a conflict as no one answers his request, and the emergence of the founder who remind others the rules of interaction.

*Excerpt 1. A typical conversation within a Warzone Regiment*

(ID01): "Who's on tonight?"

(ID02): "I'm finishing dinner and will be there."

(ID03): "I'm online."

(ID04): "Me too."

(...)

(ID05): “I’m here... But are you in a game? How many of you are there?”

(ID01): “4.”

(ID05): “Because I’m alone.”

(ID01): “Join us, XXX [ID04].”

(ID03): “Can’t get in.”

(...)

(ID05): “Can we split up? I’m alone otherwise.”

(ID05): “ID06, are you with anyone?”

(ID02): “We are 4... XXX, XXX, and XXX are online...”

(ID01): “Does anyone have a spot?”

(ID01): “Well, when there are 4 of us and one is alone, we split up, right?”

(ID01): “No one’s responding.”

(ID06): “I don’t want to be argumentative, but this is making me so angry.”

(...)

(ID01): “Next time we’re 4, I’ll do the same.”

(...)

(ID02): “We could be one group of two and one of three, we can split, it’s not a problem, but if there are other 4 people connected, I don’t see the problem. I don’t like being argumentative either, but there are things that aren’t working. If we’re being nitpicky, you write here, and no one cares! I’m just one person, I can’t split myself into 150 people!”

(ID02): “If there are clan members alone, don’t play with friends. The priority is the clan. Or at least write in the group, that’s what it’s for.”

The dynamics within a Regiment are fluid and can evolve over time. While many Regiments are initially established for casual play, they can gradually adopt a more competitive edge, and in some cases, even progress into Esports organizations. The dynamic of entry and abandoning regiments is illustrated in the next subsection.

### **1.2.3 In and Out of the Regiment**

Regiments in Warzone, particularly the larger ones, often display fluid boundaries, marked by members frequently joining and departing. This dynamic has the potential to continuously transform the interaction among individuals, a phenomenon I observed throughout my ethnographic work. Regiment members exhibited varied patterns: some

shifted allegiance between Regiments, stopped playing, remained inactive within their groups, gave up administrative roles, or left and later sought re-entry. Occasionally, players would start new Regiments with a select group of former members or rejoin previous ones. These patterns reflect diverse factors influencing player engagement, such as changes in personal habits, friends discontinuing play post-pandemic, loss of game interest, gameplay conflicts, or the pursuit of a form of more competitive play. The relationships formed within these Regiments, characterized by their fluid boundaries, are often grounded in shared gaming interests: as these interests evolve or change, so too can the connections between members, sometimes leading to the rapid dissolution of once-strong bonds.

Beyond a shift in interest, there are other reasons for departing a Regiment. In one case a Regiment's gradual decline stemmed from disillusionment with internal dynamics and low participation rates of members to the Regiment's life. The founder, a woman (PL07), faced challenges from members who distanced themselves, which were partly due the Regiment's policy of restricting its members from playing with others outside the group. This rule, initially meant to foster Regiment cohesion, ironically led to tensions as members formed new connections outside the group. In another Regiment, administered by a council of several officers (PL08, PL09, PL10, PL12) increasing memberships made management and control particularly challenging. Conflicts arose between those who viewed gaming as relaxation, opposing strict rules, and others advocating for tighter control over language and interactions. These differences resulted in members leaving or being expelled.

Another notable example involves a third Regiment, as the founder (P06) chose to expel some players due to the emergence of conflicts, including jealousies and romantic entanglements among some members, that disrupted internal harmony. Moreover, the founder aimed to transition the Regiment into a more competitive, sports-oriented clan, a shift which involved a fundamental change in the Regiment's recruitment strategy, emphasizing skill acquisition to better align with the newly established objectives of the group, and marking a move towards a more serious and professional orientation. As he clarified:

*“Now I'm adopting a different logic... back then, even if the player had a KD 0.70, so he wasn't very strong, but he was nice, pleasant, and brought a pleasant*

*situation, even if he's not very strong who cares (...) while now I try with certain characteristics, if he doesn't have a KD like mine or higher he doesn't fit... Then of course, if the guy is strong but I don't like him, he doesn't go in, it's not just the technical skill that counts."*

Entering and exiting a Regiment can be a simple or a more complex process, usually depending on whether you follow the rules. Administrators or the group collectively may decide to expel a member, leading to immediate cessation of interactions. This decision is often irreversible, except in cases like the Regiment I studied, where former players often remained connected through a WhatsApp group even after having stopped playing the game, valuing the social bond over the game itself.

In conclusion, participation in a Warzone Regiment extends well beyond the realm of gaming, fostering a community that nurtures both camaraderie and competition. These insights provide a crucial foundation for understanding the formation and dynamics of smaller groups within these larger organizational structures. The following section delves deeper into these groups, exploring how they emerge, function, and contribute to the overarching experience of being a Warzone player.

#### **1.2.4 Main Takeaways**

**Recruitment Regiments' styles.** The Warzone community is marked by a rich diversity in how players integrate into the gaming environment. Many start their journey through solo queuing, forming temporary teams with random players from around the world but they tend to transition from this solitary form of play to joining Regiments, which provide not just a platform for enhanced gameplay but also foster a sense of community and belonging. The criteria for recruitment and continued membership in these Regiments are diverse, reflecting the varying objectives and characteristics of different groups.

**Socializing in the Regiment.** Warzone Regiments differ from traditional gaming groups such as the well-known "raiding guilds" of World of Warcraft by focusing more on social interaction and enjoyment rather than complex organization. Regiments differ in their focus, with some prioritizing competitive play and others fostering a more casual, community-oriented environment. Activities within Regiments range from gameplay to socializing, with administration typically handled by one or more dedicated members. The

nature of these Regiments is fluid, often evolving from casual playgroups to more competitive or even Esports-oriented teams.

**In and out of the Regiment.** The membership of Warzone Regiments is fluid, with players frequently joining and leaving, reflecting changes in gaming interests, personal habits, or conflicts within the group. This fluidity has significant implications for the social dynamics within Regiments. While it offers opportunities for new connections and experiences, it also means that relationships within these groups can be transient, contingent on shared gaming interests and regimental cohesion. Participating in a Regiment goes beyond gaming and entails being part of a community, whose nature is constantly evolving based on the interactions and decisions of their members.

### **1.3 Squad Formation and Teamwork in Warzone**

So far, we have illustrated that Warzone, despite being a game with structured mechanics, incorporates elements of randomness, openness, and creativity. Players navigate this uncertainty by learning strategies and movements from fellow players or social media and join Regiments - whose nature is notably fluid, to build a community and find teammates. Building on these observations, the focus now shifts to examining the characteristics of temporary groups that are formed within these Regiments to play the game and how teamwork and collaboration works within these groups.

The nature of these formations, also called *pick-up groups* in previous research, mirrors insights previously explored by Rapp (2018b). The author characterizes pick-up groups as “temporary organizations,” which form spontaneously for specific tasks and objectives and disband quickly thereafter, because of their blend of group and organizational attributes. Similarly, Warzone squads exhibit group-like features through their reliance on informal rules and roles. Yet, unlike traditional groups where affective ties and a shared identity often bind members (Tajfel & Turner, 1986), Warzone squads may lack these deeper connections, emphasizing their ambiguous nature.

For this part, I mostly rely on observations and interviews, which make evident that these squads frequently reflect the fluidity and diversity of the Regiments to which they belong, factors that can significantly influence the gaming experience.

The main takeaways of the section are reported in section 1.3.4 and summarized in Table 3.

Table 3. Squad formation and teamwork in Warzone: summary of results

Section	Subsection	Description
<b>1.3.1. Squad Formation in Warzone</b>	1.3.1.1. Personal Preferences and Familiarity	Squad formation in Warzone is characterized by fluidity. Players typically favor familiar teammates for better coordination and connection yet are adaptable to playing with new members.
	1.3.1.2. The Role of Motivations and Skills	Selection of teammates is based not only on personal motivations and goals but also on skill levels. This choice significantly influences both team composition and the overall gaming experience.
<b>1.3.2 Playing in Mixed-skilled Teams</b>	1.3.2.1 Teamwork in Squads and Skill Levels	Diverse communication styles are noted among novice, average, and master players, focusing variably on gameplay, and social or emotional aspects. These styles correlate with skill levels, shaping team strategy and cohesion.
	1.3.2.2 The Importance of Skills in Warzone	Mixed-skill teams often face challenges due to skill disparities, impacting the player experience. This can lead to avoidance strategies and potential conflicts, affecting team harmony and satisfaction.

### 1.3.1 Squad Formation in Warzone

In this section, I explore the nuanced dynamics of squad formation in Warzone, where personal preferences and familiarity play a pivotal role. This leads to unique team compositions and experiences.

#### 1.3.1.1 Personal Preferences and Familiarity

In Warzone, the formation of squads appears to be a fluid and often spontaneous process. Participants reported that playing well or poorly depends on the composition of the squad, with a preference for playing with familiar members from their respective regiments rather than “solo queuing” with random players. This preference is rooted in repeated gaming sessions, where bonds and a deeper understanding of each other’s play styles and strategies are formed, but also for enjoying the social aspects of the game. Therefore, preferences for known players not only strengthens personal connections, favor the

enjoyment of the game, but also enhances the overall effectiveness of the team, in players' opinion.

However, when preferred teammates are unavailable, players tend to adopt a pragmatic approach, opting to include (almost) any available regiment member. This is particularly true for adults juggling work and family commitments, who seek quick gaming sessions for relaxation during short breaks. Another important reason lies in the quality of the experience, as many players prefer the familiarity and reliability of known teammates over the unpredictability and stress associated with playing with random players. An interesting perspective is provided by P23, who compares playing with a random squad member to interacting with non-human NPCs (Non-Playing Characters). She highlights the absence of trust, reliable communication, and coordination with such players. This sentiment is echoed by P18, who shares his experience with a more skilled player:

*“I played with that guy (...) and he told me that he preferred to play with me rather than having a ‘random’ that maybe leaves the game in the middle... even if I am a noob [ed. note: short for “newbie”, someone who is inexperienced or not very skilled at the game], at least we can try it, we have a way to communicate, we have a chance (...) I noticed that many people just play with someone, maybe they play a mode they don't like, they do things they'd rather not, but between the two they choose to play with someone instead...”*

Yet, this pragmatic approach might not always be optimal, considering that the synergy and compatibility of team members' skills and interactions are crucial. This topic is unfolded in the next subsection.

### *1.3.1.2 The Role of Motivations and Skills*

In addition to practical reasons, including the availability of members, there are other factors influencing teammate selection. One key factor is the underlying motivations and goals of the players. The way players perceive the game's purpose - whether as a serious competition or a leisurely pastime, greatly influences their choice of teammates. This diversity in approach and attitude towards the game, prevalent even among casual players, can profoundly affect the overall gaming experience. For instance, P01 emphasizes the

importance of aligning his behavior to others' understanding of the game to prevent social exclusion:

*“When I’m with people who play for fun and not for K/D, I know I can mess around, drive around, take a helicopter, do silly stuff ... But when you play with strangers, you never know how they'll take it (...) I've seen people argue in the group because maybe someone did something nonsensical (...) It would be fun to all get on a truck and throw bombs, but you don't do it (...) There are people who are passionate about the game, and if you ask them to take a ride in the car, maybe they won't invite you next time.”*

Players may be more or less explicit about their preferences, forming squads based on declared intentions, expressed on the Regiment's WhatsApp group, and gather players with similar goals. Alternatively, this “negotiation” can happen in-game, with players starting a match by asking, “Do you want to win this, or are we playing casually?” thereby adapting their play style accordingly.

Skill level is another critical factor that significantly influences squad formation in Warzone. Some players are persuaded of the existence of a skilled-based matchmaking system<sup>5</sup> which regulates the creation of the lobby, and they might use it at their advantage by creating favorable team composition. For instance, less skilled players might team up with more experienced players for guidance and a better chance of survival; however, they may also purposely exclude more skilled players from their squads hoping for an easier gaming experience. Conversely, highly skilled players might include less proficient teammates in their squad to potentially lower the overall skill rating, leading to matches against less challenging opponents; alternatively, they might opt to avoid less skilled players, feeling that these teammates do not sufficiently contribute to overcoming the opposition.

This strategic manipulation of the matchmaking system illustrates the tactical considerations players make to enhance their gaming experience.

### **1.3.2 Playing in Mixed-skill Squads**

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<sup>5</sup> As explained in the previous chapter (Chapter 3. Ethnography), there is the belief within the Warzone community that Warzone does indeed match players in the lobby based on their skills.

The presence of players having different skills but playing in the same squad can occasionally lead to tension and dissatisfaction. A primary concern stems from the inadequacies of the matchmaking system, which can from time to time ruin the gameplay experience, instead of favoring it. This issue arises when casual players are unfairly matched against professionals, as pointed out by P15:

*“Unfortunately, Warzone does not have a very effective system for matching teams based on their skill ratio... It can happen that an average player encounters real monsters, people who spend a lot of hours on COD (...) I've researched a lot, and you risk encountering top-tier players who compete in global tournaments... you might play in a team with Regiment members who have a good ratio, and the combined rates can match you with streamers and professionals.”*

This disparity in skills not only affects the fairness of matches but also influences team dynamics. As reported by several players in the sample, it is common for experienced players to focus on playing “well” to win the match. They may have specific expectations from the game’s outcome (i.e., winning the game) and less tolerance for mistakes. As highlighted by P03, and echoed by other inexperienced players, more skilled individuals tend to adopt a more individualistic approach to the game that can disrupt the atmosphere: they may venture off on their own or showing impatience and frustration towards mistakes made by their less skilled teammates. This seemingly individualistic play style can detract from the overall enjoyment of the game for other team members. Therefore, I observed some players adopting “avoidance strategies” to cope with this problem when it comes to forming the squad. P14 provides an example of this dynamic:

*“Sometimes when I find myself playing with guys who think they are pro players but actually aren't, they start insulting you... and so I get nervous and play poorly... That's why I prefer to just turn off the game and maybe restart it after 15 minutes when they are in a full team, so I can play with other people rather than saying ‘no, I'll go with others’ (...) I just switch off the game, and then come back... and then after a while, you just don't play with those certain people anymore, you start to not accept their invites.”*

It is interesting to notice that players tend to avoid open conflict with certain Regiment members, who are still part of the organization. Rather than directly addressing issues, players often resort to making excuses, quietly leaving the game, or finding other passive strategies to avoid these individuals. This approach of circumventing confrontation can, however, lead to some members being gradually ostracized, finding it challenging to connect with others for gaming sessions. Secondly, this behavior can give rise to silent, unexpressed conflicts within the group, potentially impacting the overall dynamics and cohesion of the Regiment.

#### 1.3.2.1 Teamwork in Squads and Skill Levels

In Warzone, teamwork is shaped by players' skill levels, leading to varied strategies and perceptions. However, effective teamwork is hindered by limited situational awareness and inconsistent team compositions, affecting the team harmony.

Teamwork is perceived differently at different skill levels in the game. Experienced players emphasize strategic role division, weapon choice, and efficient communication through the game interface, while less expert players understand their limited offensive contribution to the match and naturally adopt a cooperative logic. In their understanding, collaborating involves a series of practices such as promptly gathering and sharing resources, especially with more skilled teammates, under the rationale that these resources enable stronger players to better confront enemies; when moving in the map, they tend to shadow stronger players, adopting a follow-the-leader approach. This is illustrated by P18, who said:

*“I always try to revive others because I know that they are more competent than me, therefore it is more useful that instead of going to shoot against a team I prefer to sacrifice myself in that way and maybe make one of the team and scrape together money.”*

Sometimes the different interpretation of teamwork among more and less expert players can lead to misalignments, with novices often perceiving immediate revival of fallen teammates as crucial, and experienced players recognizing that this is not always the strategically correct move, as it could expose players to be killed. Moreover, less experienced players tend to report all their observations, whereas seasoned players value

precise communication to allow for concentrated gameplay and strategic information sharing. Finally, some expert players are skeptical about the possibility to do teamwork and its impact on the outcome of the game due to the game's inherent "randomness" and difficulty in controlling situational variables, as illustrated by P04:

*"There will always be some unexpected or random situation (...) Yes, you can improve and reduce these situations... but in any case, there's always that situation where you find someone camping or someone waiting for you at the safe that you have to cross... and it's no longer a matter of skill."*

#### 1.3.2.2 The Importance of Skills in Warzone

According to players, teamwork effectiveness is hampered by several issues. Players criticize the game for lacking features that provide a broader view of the team, which restricts "situational awareness", prompting players to maintain close proximity to each other as a compensatory tactic. Even though in-game features like mini-maps and compasses aid in understanding teammates' status, the lack of consistent communication response poses a problem, impacting the effectiveness of team coordination and strategy. More expert players, instead, find coordination challenging due to frequently changing team compositions, hindering consistent strategy development as they cannot count on the same people.

In Warzone, a significant challenge is aligning game styles and "interpretations" of the gaming activity within temporary teams. Players seeking fun often pay less attention to organization and team dynamics, contrasting with competitive players who prioritize these aspects. However, the lack of structured, consistent teams, coupled with frequent changes in team composition and a mix of novice, average, and expert players, often leads to problems. Experts feel that frequent changes in team composition limit effective coordination and hinders the development of cohesive strategies, as consistent team play is rare; instead, less experienced players find it challenging to play with higher-level teammates, as they often feel expert players isolate themselves and communicate less. For instance, P03 stresses the importance of adapting to the team rather than focusing on individual skill:

*“[More expert players] must also understand that they need to adapt to the team. It’s not about going solo just because you are good at shooting. If you push alone, you might end up dying (...) deviating from the strategy or not landing together can lead to continuous deaths and the need to restart.”*

This dichotomy in motivations and expertise creates difficulties in forming cohesive team strategies and can disrupt gameplay and team dynamics. As a matter of fact, when less skilled players feel unheard, deviations from group norms can occur. In a similar fashion, P17 describes a scenario where her team decided to attack an enemy team, while she thought it was better to wait, stay close to each other, and gather resources: eventually, she had to follow the team despite not having enough ammunition and died. A similar experience is reported by another player, P24, who expresses frustration about following others’ game strategies in Warzone, especially when disagreeing with landing spots that seem overly risky or unenjoyable: *“Let’s say that if I always have to play the game of the strongest, sometimes I get bored, also because it’s not always effective, I mean maybe the strongest is a crazy person who has no sense of risk, and you die in two, so anyway.”* She also mentions sometimes choosing to land elsewhere, acknowledging this might seem uncooperative but also pointing out that it can lead to being the sole survivor, enabling them to save the team. This illustrates the potential for conflict within mixed-skill teams when strategies and player voices are not harmoniously integrated.

### **1.3.3 Main Takeaways**

**Squad Formation.** Squads in Warzone form often based on personal preference, with players favoring familiar teammates to enhance game experience and effectiveness. When preferred teammates aren't available, players pragmatically include any available regiment members, adjusting for motivations, goals, and skill levels. The perception of the game, either as a casual pastime or a competitive pursuit, also influences squad composition.

**Playing in Mixed-skill Squads.** Squads often comprise members of varying skill levels, leading to different communication styles: novices prioritize social interaction, while experienced players focus on game-centric communication and have higher performance expectations. This disparity can cause tension and dissatisfaction, prompting some players

to adopt avoidance strategies, which, while reducing immediate conflict, may foster underlying issues impacting team dynamics and cohesion.

**Teamwork in Mixed-skill Squads.** Teamwork varies significantly in mixed-skill squads: novices emphasize cooperation, whereas seasoned players focus on strategy and communication efficiency. These differences can misalign team strategies and goals. Hindered by limited situational awareness and inconsistent compositions, as well as diverse motivations and playstyles, challenged coordination can spark conflicts, detracting from the overall gameplay experience.

## **1.4 Organizational Dynamics in Warzone: Decision-Making, Power, and Leadership**

Thus far, I have explored how team composition impacts gameplay dynamics, experience, and communication in Warzone. In this section, I delve deeper into the dynamics that govern Warzone gameplay. This comprehensive analysis covers decision-making processes, power dynamics, conflict resolution, and the management of errors within the game's framework. These are collectively intended as "organizational" dynamics, a term that reflects the structured yet flexible way these temporary groups operate.

This formulation captures the essence of why the dynamics observed in Warzone gameplay are referred to as "organizational." It emphasizes that, despite the lack of formal structure typical of traditional organizations, the emergent coordination, strategic planning, and goal-oriented behavior among players bear a strong resemblance to organized entities rather than groups. The intention is to highlight the complex nature of interactions within Warzone gameplay, where players must navigate both explicit and implicit rules, roles, and responsibilities to achieve collective goals.

The findings show the impact of decision-making in Warzone's ever-evolving environment and examine the collaborative efforts within various team structures, ranging from those with fluid leadership to teams that favor collective decision-making. Additionally, they reveal the influence of players' skills and performance metrics on leadership roles, examine strategies for resolving conflicts, and discuss approaches to handling in-game mistakes.

The main insights from this section are summarized in section 1.4.3, with a detailed overview provided in Table 4.

Table 4. Organizational dynamics in Warzone: summary of results

Section	Subsection	Description
<b>1.4.1 Decision-making processes</b>	1.4.1.1 Fluid Leadership and “Democratic” Teams	Warzone teams oscillate between “fluid leadership” where decision-making is led by situationally rotating leaders, and “democratic teams” where decisions are made collectively. Fluid leadership teams are marked by context-driven decisions, while democratic teams engage in more inclusive but potentially slower consensus-building processes.
	1.4.1.2 Challenges to Effective Decision-Making	The game’s dynamic nature challenges players to balance serious and recreational approaches. While democratic decision-making underlines the game's playfulness, it may hinder rapid strategic responses. Conversely, fluid leadership teams prioritize rapid decision-making but risk suppressing individual inputs.
	1.4.2.1 Navigating Leadership and Power	Leadership is often informal and based on in-game performance metrics like kill count. Lack of formal leadership can lead to potential conflict due to differing opinions and strategies.
<b>1.4.2 Power Dynamics and Conflict Management</b>	1.4.2.2 Addressing Sources of Conflicts	Generally, conflicts stem from authoritarian leadership styles that conflict with players who emphasize fun, collaboration, and democracy. Pursuing personal objectives and ignoring the team (a gaming style which is “looking for the kill”) is another source of conflict, coupled with loud complaints and criticism.
	1.4.2.3 Managing Mistakes	Teams tend to tolerate mistakes, reflecting the game's casual nature. However, the desire for high performance can create tension, especially when expectations differ. Conflicts arising from mistakes are usually not addressed directly, leading to avoidance of problematic team members.

**1.4.1 Decision-Making Processes**

In Warzone, decision-making is primarily guided by instinct and the immediate context of the game. As outlined in Chapter 3, the game incorporates unique elements and mechanics, such as the expansive map and frequent updates by developers, creating an ever-evolving and dynamic environment. Consequently, decision-making becomes a critical aspect of gameplay. Beyond possessing a fundamental “script” of essential actions and basic tactical elements (see Section 1.1.2.2), players must establish their strategy on the fly, adapting to the game’s fluid and unpredictable nature.

#### 1.4.1.1 “Fluid Leadership” and “Democratic” Teams

Observations indicate that Warzone teams can generally be classified into two distinct types. The first type, that could be labeled as “fluid leadership” team, features an understanding among members, moving cohesively and often driven by one or more rotating leaders based on the situation: this means that there are one or more designated leaders taking charge of most decisions, and leadership roles may alternate based on the situation’s demands.

When players have a more serious take on the game, key decisions, like choosing a landing spot, are generally made rapidly. Maintaining focus and effective, rapid communication during combat in Warzone is crucial. However, there is always a need to balance this precision without overwhelming others, as illustrated by P21:

*“You must maintain focus and communication during a fight, without talking over each other, measure information and not talk too much... you have to be quick in communication. This is the most difficult part (...) keeping that seriousness and composure to be able to face situations... knowing when you can push and when not (...) But I also think you need to alternate this precision with lightness, unless you are in an official tournament... it is a game after all (...) I really like playing with this seriousness and sometimes I feel bad because I can come off as mean or rude, but it's not that I'm mean, it's that I demand a bit of seriousness.”*

Contrastingly, in “democratic teams”, a type of organization that I found to be common within the community, there is no distinct leader and decision-making becomes a collective process, with multiple voices contributing to the strategy. This often leads to a democratic

but potentially less streamlined approach, where decisions are made through group consensus or individual suggestions rather than following a single leader's directives.

In absence of a clear leader, decision-making often naturally gravitates towards proactive members who make proposals and take the lead. Although open dialogue can foster inclusivity and varied inputs, it can also lead to confusion or lack of cohesion, especially when different members have contrasting opinions. Moreover, hesitations in decision-making can be detrimental in a fast-paced context like Warzone when lack of rapidity and disunity can expose the team and make it vulnerable to attacks. This is why a player, P11, points out the inefficiencies of individualistic decision-making, advocating for a decisive leader who can quickly analyze situations and guide the team.

#### 1.4.1.2 Challenges to Effective Decision-Making

It is intriguing to observe that, whether playing for fun or more seriously, there is a prevailing sentiment that the game should not be overly influenced by serious dynamics. Specifically, the approach of democratic teams is said to stem from the conviction that, in non-competitive play, tolerance and inclusivity are essential. According to participants, overly structured gameplay could detract from Warzone's inherent playfulness and emphasize the importance of maintaining the game's fun and spontaneous spirit, rather than adopting an excessively serious or work-like attitude.

For example, P06 mentioned:

*“Even when I play for fun, I often find myself in a leadership role, making decisions like ‘Guys, pushing these guys is foolish, let’s turn left and go safe’... But then someone might say ‘No, I want to push,’ and that’s fine, especially if I’m playing during a lunch break, I’m not the one calling the shots (...) It all depends on whether you’re playing to rack up kills or to win, as these are two completely different gameplay styles.”*

Another participant, P25, echoes this sentiment, emphasizing respect for the game's recreational nature, preferring advice over commands to avoid being overly authoritative:

*“I don't want to be a bother to people because I know it's a leisure activity for them and should remain so (...) I don't like to order people around because they*

*might tell me off, and they'd be right (...) I give mostly advice, not commands, but some might take it as a command and get annoyed... Indeed, when I see someone proactive who says 'Hey, you lead, tell me what we should do,' then I might take the lead... But I don't want to become a boss... I understand some people play to relax..."*

The essence of decision-making in Warzone lies in its adaptability, as players must navigate various play styles, from structured leadership in competitive play to more spontaneous, collective decision-making in casual contexts. Given the potential for conflicts within teams, understanding how players negotiate and resolve conflicts can be as important as the decision-making itself. This dynamic will be explored in the next and last subsection.

## **1.4.2 Power Dynamics and Conflict Management**

### *1.4.2.1 Navigating Leadership and Power*

In Warzone, the dynamics of power and conflict management are intricately tied to the game's informal and spontaneous structure. Leadership in Warzone can often be skill-based, with players who have higher kill counts feeling empowered to guide the team. While players recognize the need for someone to guide the team, there is a tendency to avoid appointing or imposing a leader in a formal way. As reported in the previous section, the absence of formal role distribution allows players to independently select weapons and strategies, fostering a sense of freedom and personal choice: however, this can also lead to conflicts, especially when deviations from strategies proposed by informal leaders occur.

In the absence of a defined team leader, there are instances where power management is predetermined by the team, established as a general rule to prevent power dispersion. As P20 reported:

*"I once played with some teammates who told me, 'Look, we're doing this experiment where each time a different person takes command and we do whatever that person says, no matter what (...) and I really didn't want to do it (...) but in the end, I did it (...) and we won (...) and I actually showed that I knew how to play, that maybe I never had the chance to try before because I was in a more balanced team with people not too strong."*

In other cases, power dynamics within a team can shift based on in-game performance. For instance, a player who secures more kills may feel qualified to lead the team. As a matter of fact, numerical aspects, such as kill count, can elevate a player's influence within the team, fostering trust among players who may not personally know each other. In Warzone, trust is often regulated by the capabilities demonstrated through metrics, such as the Kill-Death (KD) ratio, as reported by P27, a professional player:

*“The KD is a business card, in the sense that when someone sees a player with a KD of four, they say, ‘Wow, this person is really strong.’ I only had a KD of 1.50, which didn’t reflect my actual strength (...) then gradually I worked on it because I understood that it was a business card and that it was important for visibility, so I raised it, and I am still raising it.”*

Statistics in Warzone are publicly visible, and the game tracks and displays various performance indicators such as kill count and total score. These statistics are accessible both during and at the end of a match. They often become a topic of discussion among players, sometimes humorously. For example, a player might feel frustrated if they inflict significant damage but secure a few kills, feeling that their performance is not accurately reflected in the statistics. On a lighter note, players who achieve few kills might joke about their performance, either making fun of each other or engaging in self-deprecating humor, especially if they feel they have not contributed significantly to a victory.

#### 1.4.2.2 Addressing Sources of Conflicts

A major source of conflict in Warzone stems from the presence of authoritarian and non-democratic approaches, which are generally disapproved. Effective leadership should be consensually delegated, prioritizing the desires and well-being of all team members. Domineering behaviors that overlook collective decisions are negatively perceived, clashing with the game's focus on collaborative decision-making and mutual respect. In such scenarios, individual statistics like kill-death ratio (KD) become less significant, and the emphasis shifts to individuals chosen for their interpersonal skills.

Warzone also faces issues with antisocial behaviors. These include, for instance, disregarding others' instructions or deliberately separating from the group to pursue personal objectives. According to novices, their more expert teammates tend to separate

from the group to seek out kills, often engaging a numerically smaller sub-group, without considering the team; on the other side, many experts complain that their teammates do not have the same pace as them, and maybe are leg behind in pursuit of loot instead of being their “shadow”, as illustrated by P15:

*“When I’m accused by a friend of ‘just wanting to make kills,’ I admit it, yes, I do want to make kills (...) If I announce to my group that I’m engaging with an enemy and they haven’t arrived yet, I mean, I find myself alone against four, maybe I’ve downed two or three and just missed the last one... It frustrates me (...) then I get angry and say, damn, where the heck are you guys? Why aren’t you with me? ... And they’re like, ‘Oh, you already left?’ (...) I’ve even lost my temper with a real-life friend who plays Warzone (...) ‘Damn it! Look at the map!’” and he says, ‘if you’re going to get angry, then I won’t play’ And I said ‘I’m not angry, just saying, help me out, come along’...”*

Often, the crux of the issue in temporary teams is the lack of established strategies to address and discuss these behaviors that lead players to distance themselves from the team, resolving to avoid playing with certain individuals in the future. This lack of communication and strategy exacerbates the problem, leading to a fragmented team dynamic and potentially diminishing the overall gameplay experience.

Another form of disruptive behavior in Warzone is the tendency of some players to engage in loud complaining or shouting, speaking over others during critical moments that demand focus and quiet, or expressing anger and criticizing teammates for their errors. These actions are detrimental as they not only lower the team’s morale but also undermine the cooperative ethos integral to the game and corrupt the atmosphere. Consequently, such behavior is generally frowned upon within the gaming community.

#### 1.4.2.3 Managing Mistakes

At the heart of Warzone team dynamics is the attempt to tolerate mistakes, as players generally expect a level of leniency regarding errors, reflecting the non-competitive nature of casual gameplay. Nevertheless, this expectation of tolerance can occasionally conflict with the aspiration for high performance. While it is anticipated that errors will be forgiven, the tension between accepting mistakes and aiming for peak performance can create

friction within the team. As P09 points out, when errors lead to suboptimal performance, this results in stress and demotivation:

*“When you start doing well, like when you gather a lot of money for the loadout and then lose it all because maybe you make a mistake, and then you get fixated on returning to the place where you died and keep dying over and over... Well, this eventually leads you into an abyss that pulls you down and, you know, it makes you unhappy (...) In short, it demotivates you.”*

For some, there are ways to address mistakes effectively. For instance, if players are playing a longer session with the same team, the time between the end of game and the beginning of the next one can be used to quickly discuss and analyze what happened, aiming to improve in the next round. However, if it is one of those cases where team members frequently come and go, players may feel that discussing is not worth the effort and respond to such situations by ending the gaming session with that team and finding someone else to play with. The dynamics change significantly when the team becomes more stable: in such cases, error management becomes easier as team members develop a deeper understanding of each other, learning about other’s personalities and offering precise feedback. This is exemplified in the experience of P21, who reflects on his past competitive gaming:

*“After some time, we had reached a certain level of understanding of each other (...) the fact that my teammates knew me helped in dealing with situations and adjusting my approach to the game... for example, I remember they told me, 'look, you always do this thing, you get stuck, die three times in a row and then get so angry that you stop thinking and start dying another ten times in a row, but this is not good for the team, it only damages it, stop it'... and eventually, I got it (...) there were many fights among us and I would take it personally (...) but in the end, there’s a tremendous mental growth.”*

This delicate balance highlights the importance of managing expectations and maintaining a supportive team environment, especially in games that emphasize teamwork and cooperation.

### **1.4.3 Main Takeaways**

**Decision-making processes.** Players heavily rely on instinct and immediate context to make decisions due to the dynamic environment of Warzone, which requires a flexible approach to decision-making and not rigid strategies of traditional FPS games. In this context, teams alternate between fluid leadership, where decision-making is situation-based and often rotated among players, and democratic teams, where decision-making is a collective process. Democratic teams, by fostering collective decision-making, potentially sacrifice speed and effectiveness in making decisions.

**Dynamics of power and conflict management.** Power dynamics often reflect players' skills and in-game performance. Metrics like kill count and KD ratio can determine who takes the lead in decision-making. The absence of designated leadership roles leads to a dynamic where proactive members may naturally assume command, a situation which can potentially result in conflicts due to contrasting strategies and opinions. When it comes to managing mistakes, teams generally exhibit tolerance, reflecting the playful and casual nature of the game, but the aspiration for high performance can create internal team tensions, especially when different expectations clash. These conflicts typically remain unresolved as players lean towards avoiding rather than confronting teammates with whom they have disputes.

## **2. Anti-social Dynamics: Cheating**

The exploration of Warzone's social landscape of the previous Section lays the foundation for better understanding the gaming experience of Warzone players. Within this community, the phenomenon of *cheating* emerges as one of the most distinctive and reflects the nature and the characteristics of the gaming environment. As an ethnographer entering the Warzone world, I was immediately confronted with the pervasiveness of this issue since the beginning of my study, pushing me to investigate it more in depth. In my observations, I understood cheating not only as a technical/privacy problem, but rather as a phenomenon deeply interwoven with the experience of players. Cheating disrupts the social equilibrium of the community by negatively affecting both the competitive and Esports play and casual play, resonating throughout the entire community. In this sense, investigating cheating provides a lens through which to examine the broader social

dynamics at play in Warzone, providing insights into how players navigate this problem, building trust, engaging in competition, and looking for solutions.

Therefore, this section provides an in-depth exploration of players' perspectives on cheating in Warzone. The analysis is organized into subsections that collectively paint a detailed picture of the phenomenon: the first one uncovers players' definitions, perceptions, and moral judgments of cheaters, along with their varied understanding of cheating technologies; the second one, instead, discusses how player competence affects their ability to detect cheaters, highlighting differences between the least and the most expert players; the last one, finally, explores the emotional and social repercussions of cheating, shedding light on how it impacts individual gaming experiences and the dynamics within the gaming community; it also describes the complex attitudes towards different cheater "archetypes" and the challenges in clearly identifying cheating practices.

Key Findings of this chapter can be found in Table 5.

Table 5. Key findings: cheating in Warzone (source: Boldi & Rapp, 2023)

<b>Cheating in Warzone from players' point of view</b>	
<b>Who the cheaters are and what cheats are</b>	<b>Knowledge of cheating</b>
<ul style="list-style-type: none"> <li>- Participants attribute the label “cheating” to different in-game behaviors depending on who performs the cheating behavior and the “role” she has in the game community;</li> <li>- Technology equipment may be considered a cheat even if it is “legal” and there is a gray area that may be characterized as cheating or not by different players</li> </ul>	<ul style="list-style-type: none"> <li>- Participants have fragmented and incomplete knowledge of all the cheats that are currently available in the game;</li> <li>- Knowledge around cheating is often the result of word-of-mouth, also due to the technological sophistication of cheats;</li> <li>- The vagueness of knowledge makes cheating an uncertain phenomenon.</li> </ul>
<b>The role of competence</b>	
Novice and average players	Masters and Esports players
<ul style="list-style-type: none"> <li>- They have few criteria to recognize cheaters and are often prey to rumors and “sensations” in making their judgments about cheating;</li> <li>- They do not have (or declare that they do not have) the competence to exploit the technological aids made available by the designers to analyze the in-game actions and discover unfair behaviors</li> </ul>	<ul style="list-style-type: none"> <li>- They can (or claim to be able to) identify those behavior that may be unfair: to do so, they utilize a variety of strategies like comparing the potential cheater with a “model” of the player and using statistics and metrics</li> <li>- Esports players have the competence to detect cheating, which allows for an in-depth analysis of the technological features of the cheats</li> </ul>
<b>The consequences of cheating</b>	
Suspicion	Surveillance culture
<ul style="list-style-type: none"> <li>- The uncertain nature of cheating encourages the spreading of “conspiracy theories” and contributes to creating a climate of paranoia, where every player may be accused of cheating.</li> <li>- Reciprocal accusations of cheating may be a way to rework negative feelings coming from a defeat, but they may fuel the climate of paranoia.</li> </ul>	<ul style="list-style-type: none"> <li>- For casuals, observing others may be a means to regain agency and sense of control over cheaters, while for Esports players and streamers it may be a way to show that they are the “paladins” of the community;</li> <li>- Reciprocal observation is sustained by the design features of the game;</li> <li>- The constant demand for transparency and the climate of “paranoia” may culminate in a sort of surveillance culture, where each player and streamer observe and are observed by others.</li> </ul>

## 2.1 Cheating in Warzone from Players' Point of View

This section explores the perceptions and knowledge of Warzone players regarding cheating. It describes how players define and identify cheaters, the moral judgments associated with cheating, and the varying understanding of cheating technologies. It highlights the nuances in player attitudes towards different types of cheaters and the complexity of identifying cheating practices. The main takeaways are reported in Section 2.1.4.

### 2.1.1 Identifying Cheaters

There exists a certain ambiguity surrounding the practice of cheating in Warzone, beginning with how players perceive and define cheaters. A common belief among participants is that cheaters are individuals lacking moral integrity, ready to do everything needed for victory, including spending substantial amounts of money on illegal software (referred to as *hacks* in the gaming community), as well as risking account bans from the game's developers. The actions of cheaters are largely viewed in a negative way, as they compromise the entire gaming environment, detracting from Warzone's potential as a standout title in the COD franchise.

However, the consensus is that cheaters are primarily motivated by a selfish desire to win, rather than an intentional aim to disrupt others' gameplay. They are distinct from provocative figures like *trolls*, who are seen as intentionally malicious (Ortiz, 2020). Participants often view cheating as a reflection of one's true character, believing that such behavior in the game mirrors similar actions in other life areas. This sentiment is echoed by a streamer with 25,959 Twitch followers, who stated, "once a cheater, always a cheater. In a similar fashion, a casual player, P22, expressed:

*"It's like the world of drugs, because if you get close to it you end up in another category... it's not like when I used them in single-player games, and I alternated between moments when I used the cheat codes and others when I did not... I could choose... here it's different, it seems that if you are a cheater in Warzone, that is your identity, you are part of that category of people."*

Despite this general view, a deeper examination reveals more nuanced perceptions of cheaters. Four distinct “archetypes” of cheaters emerge from participants’ descriptions: *the dopers, the fraudster, the frustrated, and the slacker.*

Some participants draw parallels between cheating and doping in sports, suggesting cheaters enhance their abilities through prohibited means, akin to athletes using banned substances. They argue that, similar to *dopers*, such players should be excluded from all forms of competition, particularly players in Esports tournaments, who are often labeled as “*dopers.*” Cheaters are also seen as *fraudsters*, akin to criminals deserving punishment. This view is particularly prevalent towards Esports players and, specifically, those who stream on Twitch, where trust is a cornerstone of the relationship with their audience, and cheating is seen as a betrayal of that trust. As a matter of fact, players are able to engage an audience also thanks to their in-game abilities, which are superior to the average player’s. The *frustrated* cheater is described as someone with low self-esteem, unable to handle the inherent disappointments of both the game and life. P11 comments:

*“... people are already frustrated due to the Covid situation... people are not happy... so they look for any gratification... to me it all starts from this, from dissatisfaction and frustration with life in general.”*

The *slacker* cheater, on the other hand, lacks the skills and willingness to improve, seeking an easy win instead. These players are considered alien to the gaming world, which values hard work, commitment, and teamwork.

However, some participants show a sort of leniency towards casual players who resort to cheating yet possess genuine skills developed through practice and time in the game. These players are sometimes excused for seeking fun or relief from real-life challenges, like work stress or the impact of the COVID-19 pandemic. As P10 and P7 note, cheating can be a temporary escape for these players, as long as it is not a persistent behavior. For instance, P10 said:

*“... you may be so annoyed with the game to get to that point [of buying game hacks] ... it is okay to have a little fun, just do not do it forever ...”, while P7 noted: “People are sick and tired of finding cheaters at the end of the game, so they buy them too, just to have some fun.”*

In conclusion, while cheaters are generally viewed negatively due to their disruptive impact on gameplay, perceptions vary based on the cheater's role in the game. Streamers and other Esports players who cheat are often labeled as dopers or fraudsters, owing to their public commitments, while less experienced players might be seen as slackers or parasites, lacking the skills required for the game and being “pushed” to use such tools.

### 2.1.2 What Players Know About Cheating Technology

Players have diverse views on what constitutes cheating in Warzone, yet they converge on a fundamental aspect, which could be used both as a contextual definition of the activity and might generally applies to different manifestations of cheating: by and large, cheating involves the illicit acquisition of third-party software to artificially enhance one’s abilities and chances of victory.

That said, opinions diverge when it comes to subtler forms of unfair in-game behaviors, often falling into a gray area. For example, many players classify the deliberate use of game *glitches* – that are software errors or flaws resulting in unintended functioning of the game, or other *bugs* as cheating. As a matter of fact, some of these glitches, like being immune to the fatal gas cloud, may provide temporary advantages to players without the financial and risk costs of traditional cheats. P13 highlights a notorious glitch, the “stim” glitch, which allowed players to use an adrenaline shot repeatedly to rapidly recover their health bar: as a result, players could effectively become resistant to the harmful effects of the poisonous gas cloud in the game, allowing them to achieve easy victories without opposition:

*“The game is full of broken elements which may lead you to victory... for a three-month period there has been this glitch, called the stim glitch... basically you just had to repeatedly use the shot of adrenaline to become immortal to gas... so you could easily hide in the noxious gas area, ride out firefights with enemies, and win the game.”*

On the flip side, some players argue for a clearer definition of cheating, separate from exploiting game errors. According to P4, exploiting a flaw in the game’s coding should not be labeled as cheating, as the responsibility lies with the game developers, not the players who make use of it.

Beyond software and glitch exploitation, participants also debate the concept of cheating in the context of technology's role in gaming. The effectiveness of technology in performing key actions, such as eliminating opponents or avoiding death, is a significant concern. Issues like internet connection quality, causing stuttering or hit marker delays are seen as critical, potentially rendering a game unplayable due to the interaction distortion. For instance, *hit marker delays* refers to the time difference between the action of a player shooting an opponent and the game displaying the hit marker, which confirms that the shot has landed successfully on the target. This is a problem for players, because it can affect their performance: in fact, a player may believe they missed their shots if the hit markers are delayed, potentially altering their strategic decisions in the game.

Given technology's pivotal role, some behaviors like exploiting legal technological advantages are considered cheating by several players. Usage of a Virtual Private Network (VPN), which is typically used for network security, is one such practice. Players argue that VPNs can reduce ping for faster responses and access servers in regions with less competitive internet connectivity, unfairly simplifying victories. Furthermore, investing in high-quality hardware is viewed by some as a subtle yet unfair advantage, as P12 argues:

*“A cheater is someone who uses game hacks to obtain advantages and win. Ok. But having a connection of 1000 Mb, a modified joystick, a 144Hz monitor, a more powerful PC or console ... all these things yield considerable advantages, for equal skills, so it is still tricky. If you do the math, an overt cheater spends only, say, 100 euros... the ‘moralist’ cheater spends way more. Both of them win or can win in an easier way.”*

Overall, while there is a consensus on certain practices as cheating, the concept remains nebulous, covering a wide range of behaviors that blur the lines between fair play and unfair advantage.

### **2.1.3 Players' Understanding of Cheating Mechanisms**

The concept of cheating in gaming is multifaceted, not only in definition but also in players' understanding and experience of it, adding to its elusive nature.

Many participants interviewed on the topic were able to specifically identify and describe various cheats and their functions, while others had a more general or vague understanding of them. Commonly recognized cheats among the participants were those that aid in enemy detection and precision, such as *wallhack*, *aimbot*, and *aimlock*. These tools enhance crucial game skills, including locating enemies, targeting critical body parts, and maintaining accurate shooting; they allow players to see through barriers or assist with automated targeting. Additionally, participants mentioned less frequent cheats that seemingly grant players extraordinary abilities like flying, invisibility, enduring running, invulnerability to attacks, and more. However, there was often uncertainty about these cheats' names, their functionalities, and even their real existence.

The complexity and variety of cheats further contribute to this uncertainty. The array of available cheats for the game is more extensive and sophisticated than most players realize. These cheats are designed to evade detection, making them challenging to identify, even for seasoned players. This complexity is evident in online gaming forums and streamer videos showcasing gameplay with cheat assistance. For example, a cheat like *aimbot* can be finely tuned, with around 20 adjustable parameters, allowing players to set its “intensity” to make detection harder for experienced cheaters. P26 elaborates on this:

*“For instance there is a ‘soft-aim’, which aims at the body instead of aiming at the head of the enemy, which would make the cheat evident... and then you look at the kill cam thinking ok, this player is good ... these are cheats but you cannot tell the difference, so you think that there is just a good player in the enemy team.”*

### **2.1.3 Developing Insights into Cheating Practices**

A significant portion of interviewees in Warzone indicated that cheating is a prevalent issue, but when asked to detail their claim to explain how their personal gameplay experience is affected by cheating, many admitted that their belief was not rooted in frequent direct encounters with cheaters. The majority of their understanding about cheats stemmed from secondary sources, such as interactions with experienced players, online forums, and internet videos. For instance, P1 said:

*“I think I only know one cheat... I didn’t understand how it worked, so I got curious, and I really looked for it... (...) it’s named ‘aimbot’ I think... then I also knew other cheats, I have discovered them in videos.”*

While P15 recounted:

*“I talk to streamers while they do their gaming sessions... and sometimes they also answer my questions.”*

This reliance on second-hand information results in a generally fragmented and vague understanding of cheating. Moreover, acquiring comprehensive knowledge without engaging in cheating is a challenge, as P10 notes:

*“Then there is this cheat known as ‘flymode’, but I have only seen it in a video, so maybe it doesn’t exist... (...) Knowledge about cheats is based on word-of-mouth, there is not much information beyond that... If you try to ask those who create them, they block you.”*

Players also occasionally struggle to differentiate between cheats and technical glitches. For example, the *rubber banding effect* caused by latency issues, where a character appears to teleport, can be mistaken for a cheat, as P16 explains:

*“Now there is also the speed glitch, and it seems to be a lag problem of the game (...) and there was this player who was walking and suddenly he was behind me, and he finally executed me ... but I wasn’t sure of what was happening.”*

Cheats are often discreet and customizable, making them hard to detect, and they can be easily confused with game-related technical problems. This ambiguity, coupled with the challenge of accessing reliable information about cheats, contributes to the elusive and indeterminate nature of cheating in the game. As a result, many players find themselves questioning in-game experiences, pondering, *“Is it legit, to you?”* seeking others’ opinions to confirm suspicions of cheating.

In essence, players’ understanding of cheating in Warzone varies, marked by differing interpretations of what constitutes cheating and a varying depth of technical knowledge about cheats, which is primarily derived from indirect experiences. The intricacy of cheats

and the difficulty in distinguishing them from legitimate play add to the uncertainty, impacting players' perception of game events and their overall experience.

#### **2.1.4 Main Takeaways**

**Perception of cheaters is varied.** The concept of cheating in Warzone is multifaceted and subjective. Players typically view cheaters as those lacking moral integrity, using illegal software for personal gain in the game. This perception extends to different “archetypes,” including the dooper, the fraudster, the frustrated, and the slacker. Esports players and streamers cheating are especially scrutinized due to the trust they hold with their audience.

**Perception of “cheats” is inaccurate.** Understanding of cheating technologies is diverse and often incomplete. Commonly recognized cheats include *wallhacks* and *aimbots*, enhancing crucial game skills like targeting and precision. However, there is uncertainty about these cheats' existence and functions, contributed by the complexity and variety of available cheats. This uncertainty is compounded by players' reliance on secondary sources like online forums and streamer videos for information.

**Perception of cheating is blurry.** The nuances in perceptions and understandings of cheating in Warzone result in an evasive and indeterminate phenomenon. Players often struggle to differentiate cheats from simple technical issues, leading to a general uncertainty and questioning of in-game experiences. This vagueness affects players' interpretations of what constitutes cheating and therefore influences their overall gaming experience, highlighting the complexity inherent in addressing cheating within the gaming community.

## **2.2 Excelling in Gameplay: Mastery and the Detection of Cheating**

My ethnographic observation reveals the importance and significance of gaming skills in Warzone. Proficiency is so crucial for both the enjoyment of the game and the maintenance of good relationships with others, that I embarked on a journey of self-improvement to enhance my gameplay skills, upgrade my weapons, and occasionally play not with the intent to observe the community but rather refine my aiming techniques to better perform in the game. This section is then greatly rooted in my firsthand experiences, exploring the significance of player skill in the game and its impact on identifying cheating, supplemented

by interviews, informal conversations with other players, and analyses of Facebook posts and videos on the topic. The main takeaways of this part are reported in Section 2.2.3.

### **2.2.1 Defining “Player Skill”**

Player skill in Warzone is influenced by various invested resources. Economic investment is key, as money can procure high-performance gaming hardware: some avid gamers reported purchasing top-notch equipment to enhance their gaming abilities. P08 noted:

*“As far as I know, players could be equipped with good reflexes and the ability to control eager emotions but having the right devices can make the difference.” For instance, superior headphones can improve sound quality, aiding in detecting enemy footsteps, while an optimized monitor can facilitate quicker enemy detection. Moreover, financial resources can unlock powerful in-game weapons [referred to as “meta weapons”] and camouflages.*

However, financial investment alone does not equate to genuine skill, which is more closely tied to time invested in the game. As I discovered, skill development requires dedication and continuous practice or training even among casual players who do not want to ameliorate to compete in the Esports domain but rather to enjoy the game more. The ability to navigate the avatar, accurately target, handle weaponry, and utilize killstreak rewards are learned over time. These essential skills are crucial in distinguishing between a cheater and a legitimately skilled player, whose exceptional performance is not the result of cheat utilization. This understanding underscores the importance of recognizing the value of time and effort in mastering the game, beyond mere financial expenditure.

### **2.2.2 Skill and Identifying Cheaters**

In Warzone, player skill significantly impacts the ability to accurately identify cheaters, differentiating between novice/average players, expert players, and Esports players in their cheat detection skills. This distinction became apparent through an analysis of data from semi-structured interviews and observations of streamer gameplay videos.

#### **2.2.2.1 Novices and Average Players**

Generally, players with lower skill levels have limited criteria to identify cheaters and report relatively few definite encounters with such players (P1, P11), even though they perceive

that cheating is, indeed, “rampant” in Warzone. Except for rare cases, these players usually rely on vague and nonspecific reasons to suspect cheating, such as, “*I was eliminated too easily*” (P9) or “*The enemy was too distant for an effective kill*” (P8). They often describe a sense of unease or suspicion when facing a potential cheater, attributing non-human-like behaviors to their adversaries. However, this feeling is typically infused with doubt, leaving them unsure about the actual presence of a cheater. For example, P8’s suspicion was based more on a feeling than concrete evidence:

*“Once I happened to think that a companion could be a cheater... basically he had a strange modus operandi... and, most of all, he was too big for his britches.”*

Novice and average players also demonstrate limited familiarity with in-game technological tools, like kill-cam or replay features, which could help them scrutinize their moments of defeat. Understanding how they were eliminated, with which weapons, and from what distance is crucial for identifying a cheater. Lack of proficiency in utilizing these tools compromises their ability to detect cheating. Therefore, for these players, identifying cheating often becomes a matter of personal belief and conjecture rather than informed certainty and knowledge.

#### 2.2.2.2 Master Players

Among the advanced Warzone players, there is a well-developed ability to spot cheaters, grounded on direct experience and extensive game knowledge. Their detection methods can be categorized into three main approaches: i) leveraging deep game knowledge; ii) benchmarking against a standard player model; iii) analyzing game statistics and metrics.

Firstly, skilled players possess a nuanced understanding of the game’s rules and mechanics, and this knowledge shapes their expectations about how the game should function, even in minute details. For example, understanding the “time-to-kill” (TTK) metrics for different weapons allows these players to spot inconsistencies in enemy behavior, as described by P6:

*“If you have a Kilo [i.e., type of weapon] the time-to-kill is shorter... this means that you need less time to kill an opponent, because the weapon... while, if you use AK-47 [i.e., type of weapon], unless you are very good at controlling it, there’s the recoil, so not all the bullets will shoot (...) in case a cheater is using no recoil*

*with this weapon, then it will be easier for her to reduce the time-to-kill, but this is inconsistent with the weapon she is using.”*

Secondly, these players often utilize a sort of “normative model” of what constitutes a proficient player. This model, comprising expected human-like playing characteristics, is used to contrast against suspected cheaters: while even professional players may miss shots or lose aim, cheaters typically exhibit flawless aiming but lack strategic human thinking, making them formidable yet predictable opponents. As P10 says:

*“There is this streamer I have been following for a while, well... when he believes there’s a cheater in the lobby he takes a shield and some flashbangs... he gets close to the cheater to stun her and disable the hacks, so the cheater doesn’t know what to do anymore... then he kills her easily with a gun (...) because a cheater doesn’t know what to do in a difficult situation, he’s clunky and clumsy.”*

Finally, more experienced players scrutinize performance data such as KD ratios and game levels. They seek inconsistencies between a player’s overall game experience and skill indicators. P6 explains this approach:

*“If a player has 5 K/D and only 30 victories he clearly has a new account... it’s not possible (...) normally only pro players or streamers have such a high K/D, so you expect them to have, let’s say, 1500 win, a high level of Prestige... if a player with no Prestige, a new account, a high K/D, headshot percentage 50% and killed you badly... something is wrong with him.”*

In conclusion, advanced players employ a combination of detailed game knowledge, comparative analysis against a player model, and data scrutiny to identify cheaters. This multifaceted approach allows them to discern subtle discrepancies in gameplay that may indicate cheating.

#### 2.2.2.3 Esports Players and Cheater Detection

Esports Players and streamers, as recognized experts and influencers in the Warzone community, hold a significant role in identifying cheaters, especially among their fellow players. Their proficiency allows them to detect subtle cues of cheating by closely examining gameplay behaviors.

One key area these players focus on is the technological aspects of cheating. They scrutinize how weapons are used during gameplay, particularly how targets are aimed at and maintained. For instance, analyzing gunfights in slow motion can reveal unnatural shooting patterns, as one popular streamer/content creator explains in a video titled “How to recognize a cheater”:

*“Are you familiar with the so-called flick-shot? It is when you rapidly shoot your target... Well, there are no frames between a shot and another... while normally there are at least five or six... this is easily detectable if you put the clip in slow motion.”*

The analysis of the visual and auditory aids at disposal of the player is also important according to these players: a cheater using a wallhack typically shoots the enemy before she is visible from the observer’s perspective (pre-fire). Visual and auditory clues also play a crucial role: Esports players watch for signs of wallhacks, where cheaters begin shooting (pre-fire) even before the enemy is visible from a standard playing perspective. This anticipation of enemy movement is a strong indicator of unfair play.

In addition to these technological aspects, these players also evaluate whether a player’s behavior aligns with that of a skilled player. Like master players, they have a mental model of a “good player” and assess deviations from expected strategic behaviors in various situations. For example, in the video series “Peanuts and Cheaters,” the gameplay of a suspected cheater is examined in detail. The player under scrutiny ignores squad signals (“ping”) about enemy positions or resources, indicating they might have more detailed information. Additionally, engaging in a firefight without full armor protection or recklessly approaching enemy groups are behaviors inconsistent with skilled, strategic play.

Esports players use these analyses to differentiate between a highly skilled player and a cheater. Their understanding of the game’s nuances, coupled with their ability to detect technological and behavioral anomalies, makes them adept at identifying cheating behaviors. Thus, these players’ competence significantly influences their perception of cheaters and shapes their approach to identifying unfair play in Warzone.

### **2.2.3 Main Takeaways**

**Role of Player Skills in Cheat Detection.** Player skills have a critical role in detecting cheating in Warzone: true proficiency in the game is not solely a product of financial investment in high-end gaming gear but is deeply rooted in the dedication and time spent mastering gameplay mechanics. Higher skill levels in the game allow for a more accurate recognition of cheat technologies: in fact, there is a marked distinction in cheat detection abilities between novice/average players and more expert and Esports players.

**Less Skilled Players and Cheating.** Novice and average players often lack the nuanced understanding and technical tools to confidently identify cheaters, leading to reliance on subjective impressions, while the most expert players exhibit a more sophisticated approach to cheat detection, employing a blend of in-depth game knowledge, comparison against a normative model of skilled play, and meticulous analysis of performance data. This multifaceted methodology enables them to discern subtle indications of cheating.

**Professional Players and Cheating.** Esports players, and streamers specifically, who are recognized as experts within the community, bring a high level of scrutiny to their observations, focusing on technological aspects and behavioral patterns inconsistent with skilled play. Their analyses, that are generally shared publicly, contribute significantly to the community's understanding of cheating dynamics. Overall, the ability to detect cheating in Warzone is closely linked to the player's level of expertise, with more skilled players and streamers demonstrating a more refined and effective approach in identifying unfair practices in the game.

## **2.3 The Impact of Cheating**

The elaboration of this section was developed through analysis of interviews and first-hand observations during gaming sessions, focusing on the players' emotional responses and interactions during suspected cheating incidents. The examination of recorded gameplay and online content created by Warzone content creators and streamers further supplemented the discovered insights.

### **2.3.1 Emotional Repercussions and Suspicion**

Despite being often a nebulous phenomenon, cheating has tangible effects on players' experiences and behaviors. The predominant response to suspected cheating is a

spectrum of negative emotions, from surprise to anger and frustration. A typical reaction is the deterioration of game enjoyment due to fear and suspicion, as P3 notes:

*“When my friends start questioning the way they were killed, I know that the match will be ruined... because some of them will start to rage, to be unfocused... and I can’t stand it.”*

The fear of encountering cheaters often overshadows the gaming experience. Accusations of cheating, particularly after being killed by the opponent or after losing a match (which is termed “*hackusation*”), are common and can undermine legitimate victories. The game’s reporting mechanism, intended to flag misconduct, can be misused as a tool for revenge by disgruntled players, as highlighted by P15:

*“My profile has been banned because Activision said I was using cheats... I don’t know where they got this data from (...) another explanation is that I was reported many times by people who did it in a moment of despair or frustration... that’s why I think constant reporting is unproductive and does no good... it’s crying wolf (...) My friends do this too, they report players when they are killed just because they are frustrated.”*

Several participants pointed out that accusations of cheating often stem from intense competitiveness and envy within the gaming community. Labeling someone a “*hacker*” after a loss can be a coping mechanism for players to make sense of their defeat and manage their frustrations. P7 shared that he could not count the times he heard someone accusing him of cheating and that this “*makes me laugh... they are just people who refuse to be defeated*”. However, such widespread suspicion can negatively affect community interactions, leading to widespread mistrust and suspicion.

Firstly, at a local level, it is interesting to note that this suspicion is not limited to players of the enemy team, but it extends to members of one’s own team. For instance, P16 remarked that he suspected a teammate of cheating as he suddenly went from acting as a novice to being overly confident in guiding the team and addressing the enemy team. Misunderstandings about the game’s reporting system led to fear of association with suspected cheaters, and players may exclude them from their group to avoid potential

bans. P15 recounted an incident where a team apologized after winning with a random player who was cheating, illustrating the perceived risks of being associated with cheaters:

*“I once played against an Italian team, where there was a cheater... and the cheater helped them win... and at the end of the game, the rest of the team apologized, saying that the cheater was a random player for them and that they couldn’t imagine... but those who play with cheaters risk a lot, because Activision may even ban them”.*

Broader community beliefs also contribute to a culture of suspicion. For instance, P16 observed:

*“In my opinion casual players like me play in lobbies made up of more than a half of cheaters... even if not everybody has all the cheats, they at least use aimbot or wallhack.”*

Finally, at an institutional level, players criticize the game publisher for not addressing the issue effectively, often elaborating theories and opinions about their direct role in perpetuating cheating instead of fighting it. P14 shared that he believed the game publisher was directly involved in the distribution of cheats through third-party sites.

Despite the introduction of the anti-cheat system *Ricochet* in October 2021, players declared to remain skeptical of its effectiveness. While at the beginning many believed in the new system’s ability to counteract the cheating problem, some players declared that cheat developers eventually bypassed it, making it rapidly ineffective. This has led to diverging opinions among players; some regained trust in the publisher, while others remain convinced that cheating is an unsolvable problem. As P14 expressed:

*“In my opinion the cheats always come out from Activision... they are always the ones that sell them through third-party sites, but at the end of the day they are always the ones who earn in the end.”*

In summary, cheating in Warzone creates a complex web of emotions, suspicions, and theories, impacting not only individual gameplay experiences but also the dynamics within the gaming community and the relationship between players and the game’s publisher.

### **2.3.2 A Surveillance Culture**

The prolonged absence of a fully effective anti-cheat system in Warzone has led to a reliance on peer-to-peer reporting, fostering a culture of surveillance among players. This culture manifests differently among casual players, who mainly play for enjoyment, and streamers, who treat gaming more professionally.

#### 2.3.2.1 Casual Players: Seeking Agency Through Observation

Casual players often feel powerless against cheaters, with many struggling to identify dishonest gamers or counter their tactics. Most casual players adopt a passive approach, such as avoiding cheaters or exiting the game as soon as they get the feeling that someone in the lobby is using cheats. As shared by P16, when he is certain there is a cheater, he usually leaves the match. Others adjust their mindset, reducing their expectations for victory or reframing the significance of a loss, as P1 explains:

*“We ranked second... and to me it’s like we’ve won... the fact that they killed us does not matter to me, because it doesn’t depend on the skills.”*

However, this sense of helplessness sometimes drives players to seek control and agency. One common method is close observation of other players using dedicated game features like the KillCam: this feature offers a brief replay of a player’s death from the perspective of their killer, allowing players to pinpoint enemy locations and potentially spot cheaters. P3 recounts an instance:

*“Once I was killed but I couldn’t understand how, I thought not to be visible [to the enemy’s eyes] ... so I thought there was a cheater... then, looking at the KillCam, I noticed that I was in fact very visible!”*

Another strategy is using spectator mode after a squad’s defeat. Players can continue to watch the match from an enemy’s perspective, with an icon indicating the number of spectators. This mode is often used to assess the integrity of opponents. P1 shared an experience of using this feature:

*“I warned the others that something was wrong, I said, ‘Hey guys, wasn’t there a wall [between the enemy and the player]?’ Because they were too focused on the game... and then, when they saw the replay they said, ‘yes, it’s true!’... I first noticed because I had died, so I could spectate”.*

This surveillance culture impacts how players perceive each other, with every action being potentially under scrutiny. Those being watched know they are being observed not for entertainment but for control. Thus, in Warzone, players can be both “the observer” and “the observed,” constantly under the watchful eyes of their peers.

#### 2.3.2.2 Esports Players and Streamers: Observing for Integrity and Reputation

In the world of Warzone, Esports players and streamers, who perceive the gaming activity in a more “serious” way or even make gaming their profession, are held to particularly high standards regarding cheating. Participants almost unanimously view cheating performed by players having an audience, such as Esports players who stream or content creators, as a severe betrayal of their followers’ trust. P6 expresses this sentiment:

*“If you cheat when there are people who follow you, who talk with you, who believe in you [...] taking advantage of the people who support you, who pay for your food ... I am happy that these people were denounced because they were taking advantage of those who believed in them.”*

Esports players’ careers and popularity are often built upon their gaming ability, leading followers to closely scrutinize their gameplay. This scrutiny places streamers at a constant risk of hackusations, as they are accused of using cheats. However, these accusations can sometimes backfire: while some streamers might use hackusations to downplay their defeats and preserve their image, being proven wrong in such accusations can damage their reputation, portraying them as unsportsmanlike or seeking excuses for poor performance.

Streamers are expected to use their expertise for accurate cheat identification. A case in point involved a streamer with a large following who, after being killed in a live stream, hastily accused the opponent of cheating. When proven wrong, he ironically commented on streamers’ tendency to find excuses:

*“Because we [streamers] are smart aleck, it’s normal bro... we have dignity and a name to defend... I can’t be killed and admit that the other player was better than me... Every time I die, I must say something like ‘he’s a cheater’ or ‘he’s a camper’.”*

A climate of mutual suspicion often leads to streamers engaging in reciprocal accusations, each trying to prove the other's dishonesty. Their role as community ambassadors adds pressure to identify cheaters, turning streamers into vigilantes. This responsibility manifests in detailed video analyses of other players' gameplay, sometimes even extending to scrutinizing physical actions like keyboard movements, hand-eye coordination, and gaze direction. In one instance, a player was accused of constantly moving his head, as if glancing at a cheating tool on another screen. The only recourse for a streamer caught in such a web of suspicion is to record their gameplay, including their physical interactions, to disprove accusations. An example of this is a popular Italian streamer who, after facing hackusations, resorted to recording his play sessions with a camera for transparency.

In summary, the impact of cheating on both casual players and streamers is profound, yet solutions are limited, largely reliant on peer-to-peer reporting. This leads to a pervasive culture of surveillance among casual players and an even more intense "panopticon"-like environment for Esports players, where every action and interaction is subject to scrutiny and potential suspicion.

### **2.3.3 Main Takeaways**

This section offers a comprehensive look into the multifaceted effects of cheating, not just on gameplay but also on the emotional and social fabric of the gaming community. The insights, drawn from interviews and direct observations, reveal a complex landscape shaped by suspicion, emotional responses, and a culture of surveillance.

**Emotional Repercussions and Suspicion.** Cheating evokes negative emotions like frustration, anger, and surprise. Players often suspect cheating in defeats, leading to a "hackusations" where losses are attributed to unfair play. This suspicion creates an environment of mistrust and paranoia, affecting gameplay enjoyment.

**Surveillance Culture.** The lack of effective anti-cheating measures has fostered a surveillance culture. Casual players, feeling powerless, use game features like KillCam and spectator mode to observe and judge other players' actions. They seek to regain control over their gaming experience by monitoring potential cheaters.

**Esports Players and Streamers' Challenges.** For players who broadcast their gaming sessions or perform in game tournaments, cheating accusations can significantly impact their reputation. They face intense scrutiny from followers, with their gameplay continuously analyzed for signs of cheating. This scrutiny can lead to a heightened need for transparency and validation of gameplay integrity.

### **3. Communication in Warzone: Exploring Player Interactions and Their Impact**

Thus far, I have described the characteristics of the Warzone gaming community. In Section 1, I described the gaming organizations that players are part of, the dynamics of group formation, the significant influence of social media and professional gaming worlds - which do not exist in isolation but actively engage with casual players. In Section 2, I explained how the spread of certain anti-social phenomena, like cheating, is intertwined with the socio-technical facets of the game, encompassing both its design components and the behaviors of those who play it.

Now, the focus transitions from examining the structures and processes that underpin socialization and community engagement to a more detailed exploration of the dynamics unfolding during the gameplay. To this aim, I primarily rely on the analysis of communication among players, alongside qualitative observations, because communication is the essence of these interactions and the glue that binds players, who are geographically dispersed. The reason for this approach is that the ways in which players converse act as a mirror for the game's social dynamics, thus offering insights into them.

Given that one of the goals of this research is to compare the gaming experiences between casual and Esports Warzone players, I will also investigate whether there are significant differences or similarities in the gaming experiences and dynamics, including emotional experiences, of these two categories.

The main insights from this section are summarized in section 3.5.4, with a detailed overview provided in Table 6.

Table 6. Warzone gaming experience between casual and Esports players

Player Category/Context	Main Communication Characteristics	Key Observations	Common trends
<b>CASUAL PLAYERS</b>	<ul style="list-style-type: none"> <li>● Long utterances;</li> <li>● High engagement in:                             <ul style="list-style-type: none"> <li>○ Situational Awareness - “Observations” (13.6%);</li> <li>○ Socio-emotional interactions – “Non-work/Social” (9.3%) and “Anger/Frustration” (8.0%).</li> <li>○ Self-focused Communication (Thinking Out Loud”, 6.7%)</li> <li>○</li> </ul> </li> </ul>	Casual players demonstrate a more emotionally expressive and socially oriented communication style. Compared to Esports players, they also express more negative emotions, tend to make observations on the gaming environment and also to express their reflections aloud, without necessarily targeting other team members.	Both casual and Esports players value communication which is aimed at sharing information (Situational Awareness, 41%), making common decisions (Strategic Communication, 26%), and expressing their emotions (Emotional Responses, 12%).
<b>ESPORTS PLAYERS</b>	<ul style="list-style-type: none"> <li>● Short utterances;</li> <li>● High engagement in:                             <ul style="list-style-type: none"> <li>○ Information Sharing and Coordination: Situational Awareness - “Observations” (16.0%);</li> <li>○ Strategic Communication - “Command” (10.7%), “Opinion/Analysis” (8.6%), “Suggestion” (6.2%);</li> </ul> </li> </ul>	Esports players exhibit a strategic and efficient communication style. They share information, observation, engage in strategic analysis, and actively direct and coordinate their team. Compared to casuals, their expression of anger tends to be more moderated.	
<b>Esports players during streaming</b>	High engagement in: <ul style="list-style-type: none"> <li>● Socio-emotional interactions – “Non-work or Social” (15.1%), “Anger/Frustration” (11.1%), “Joy/Laugh” (7.7%), “Humor/Taunting” (4.8%)</li> <li>● Internal Monologue – “Thinking Out Loud” (7.3%)</li> </ul>	When broadcasting their gaming sessions, players focus more on social interaction with both teammates and the audience and tend to express both positive and negative emotions. However, they also engage in internal monologue or speak to the audience rather than their teammates.	
<b>Esports players during tournaments</b>	High engagement in: <ul style="list-style-type: none"> <li>● Situational Awareness – “Observation” (17.8%), Questions/Inquiry (6.6%)</li> <li>● Strategic Communication - “Opinion/Analysis” (9.6%), “Suggestion” (7.0%), “Agreeing/Acknowledgment” (6.6%)</li> </ul>	During tournaments, players prioritize gameplay-focused communication, with a strong emphasis on sharing information and strategic communication (giving commands, suggestions, analyzing the situation and providing opinions). In tournaments the expression of both positive and negative emotions is lesser than in streaming.	

### 3.1 Predominant Communication Patterns Within the Sample

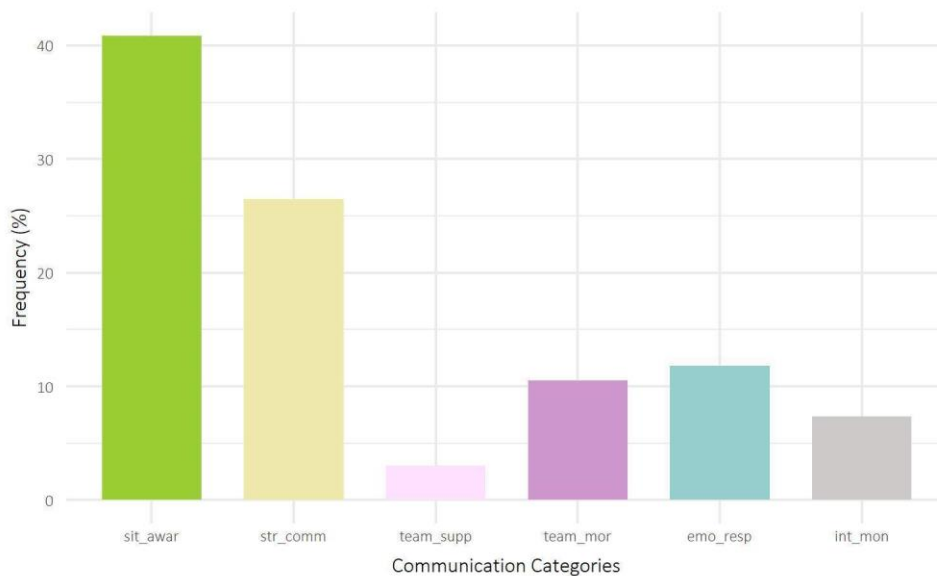
#### 3.1.1 Quantitative Insights: Frequency Distributions of Communication Categories

This section explores in depth how Warzone players interact, through the analysis of their communication exchanges. Through an analysis of how frequently a variety of communication elements occur during the game, I identified and categorized the types of messages players exchange and aligned them with specific styles of communication. The frequency of the occurrence of these categories during the gameplay – which are expressed both in raw numbers and as a percentage of total communications, are representative of the ways players talk to each other. Table 7 shows the distribution of these communication styles, while Figure 1 visually illustrates them. Additionally, Table 8 offers a closer look at the specific types of messages exchanged, and Figure 2 complements the information offering a visual summary.

Table 7. Frequency distribution of communication categories within the sample.

Communication category	Frequency (%)
Situational Awareness	41%
Strategic Communication	26%
Team Support	3%
Team Morale	11%
Emotional Responses	12%
Internal Monologue	7%

Figure 1. Visual representation of communication categories within the sample (Frequency Distribution)



Legenda: “sit\_aware” = Situational Awareness; “str\_comm” = Strategic Communication; “team\_supp” = Team Support; “team\_mor” = Team Morale; “emo\_resp” = Emotional Responses; “int\_mon” = Internal Monologue

These findings highlight a range of communication approaches, from those focusing on tactical game-play to others expressing emotions. Predominantly, players focus on maintaining Situational Awareness (41%) and Strategic Communication (26%), indicating a strong emphasis on understanding the game context and planning tactics. Emotional exchanges also play a significant role, accounting for 12% of interactions and suggesting the emotional depth within player communications.

An interesting discovery is the concept of “Internal Monologue,” where players express personal thoughts or self-dialogue that aids in strategy development or stress management, without necessarily communicating with teammates: this category accounts for 7% of all communication exchanges. This is relevant because, despite Warzone being a team-based play, a small but notable portion of player dialogue is not intended for team interaction. “Team morale” efforts, such as positive reinforcement, gratitude, and apologies, constitute a smaller fraction of the discourse (11.6%). Similarly, instances of “Team Support,” like calls for assistance or providing help, are rare, making up about 3% of

communications from a total of 5915 statements. This suggests these aspects might not fully capture the game’s communicative dynamics.

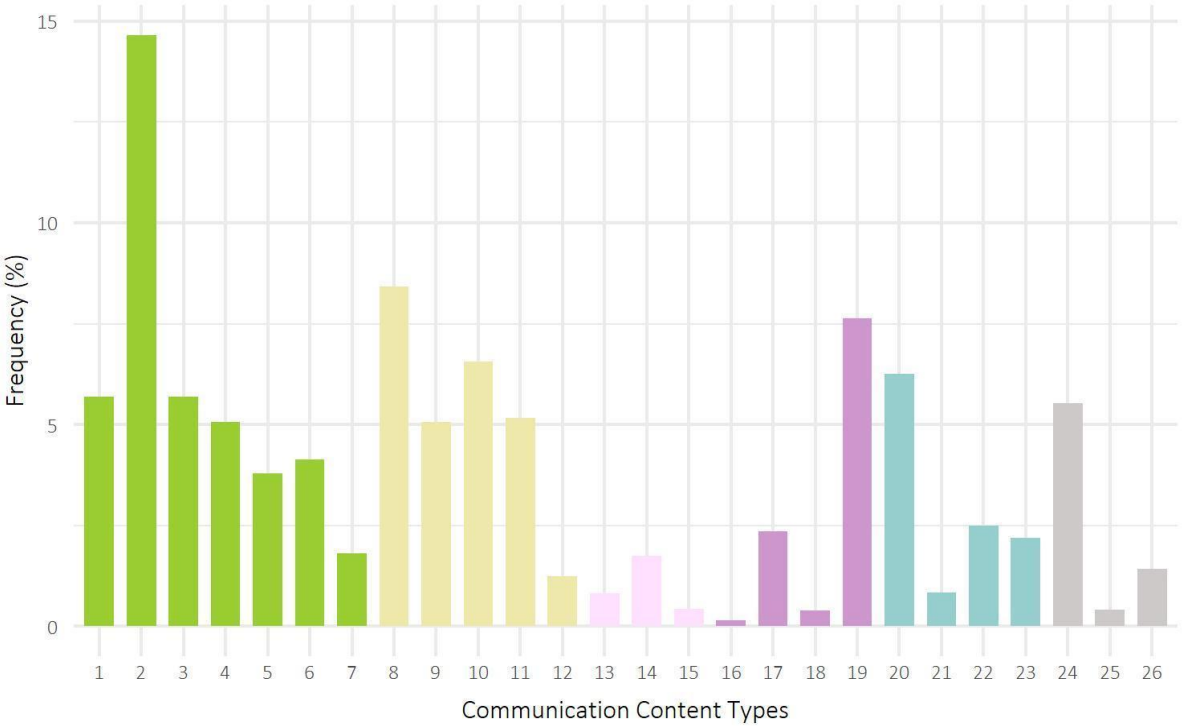
Table 8. Absolute and relative frequencies of communication content types within the sample

Category	Code	Communication content type	Frequency (n)	Frequency (%)
<b>Situational Awareness</b>	1	Sharing Intention	337	5.7%
	2	Observation	867	14.7%
	3	Questions/Inquiry	337	5.7%
	4	Answer and Comments	300	5.1%
	5	Game state	224	3.8%
	6	Personal state	245	4.1%
	7	Team state	107	1.8%
<b>Strategic Communication</b>	8	Command	498	8.4%
	9	Suggestion	299	5.1%
	10	Opinion, Analysis, and Evaluation	388	6.6%
	11	Agreeing and Acknowledgement	305	5.2%
	12	Disagreeing	74	1.3%
<b>Team Support</b>	13	Asking for help	48	0.8%
	14	Offering help	104	1.8%
	15	Giving help	26	0.4%
<b>Team Morale</b>	16	Apologies and Remorse	9	0.2%
	17	Encouragement	139	2.3%
	18	Thanks and Welcome	23	0.4%
	19	Non-work/Social	452	7.6%
<b>Emotional Responses</b>	20	Anger and Frustration	370	6.3%
	21	Fear and worry	49	0.8%
	22	Joy, laugh, relief	148	2.5%
	23	Humor and taunting	130	2.2%
<b>Internal Monologue</b>	24	Thinking Out loud	327	5.5%
	25	Out-of-game	25	0.4%
	26	Accountability	84	1.4%

An in-depth analysis of 5915 interactions among Warzone players offers additional insights. The data show that the most common types of messages exchanged include “Observations” (14.7%, code 2), “Commands” (8.4%, code 8), “Non-work/Social” (7.6%, code 19), “Opinion/Analysis” (6.6%, code 10), and “Anger/Frustration” (6.3%, code 20) statements. The prevalence of casual social conversations points to a significant social layer within the game, highlighting that player discussions often extend beyond mere tactical or game-related topics. On the less frequent end of the spectrum, with each category constituting less than 1% of the total, are “Apologies/Remorse” (0.2%, code 16),

“Thanks/Welcome” (0.4%, code 18), “Out-of-game” (0.4%, code 25), “Giving Help” (0.4%, code 15), “Asking for Help” (0.8%, code 13), and “Fear/Worry” (0.8%, code 21). These findings indicate that such types of communication are relatively rare, thus not as indicative of the general communicative trends within the Warzone gaming community.

Figure 2. Visual representation of communication content types within the sample (frequency distribution)



**3.1.2 Qualitative Insights: The Relevance of Information Sharing**

The informal discussions and ethnographic observations emphasize the critical role that strategic communication plays in Warzone, thereby enriching quantitative data. When interviewed on the gameplay dynamics, players underscore the necessity for robust teamwork and dialogue, noting that success depends not only on an individual’s ability but also on the collective ability to communicate effectively. As already reported in Section 1, players often point out the shortcomings of in-game navigation aids like the mini-map and compass, which fail to support ideal information sharing, underlining the importance of proactive communication among teammates. The game’s inherent unpredictability, as described by our subjects, renders reliance on preset strategies impractical. A casual player, PL07, expressed this sentiment, stating:

*“This game is not tactical, it's random... Even if you try to do tactics, even if you organize, you will always find enemies (...) and it takes time to learn how to communicate well with the team (...) then luck also counts, maybe you open a chest and find some perks.”*

Furthermore, participants stress the importance of quality headphones and clear audio for detecting enemy movements, necessitating concise and meaningful communication to avoid distractions or detrimental chatter during gameplay. Situational demands vary: a player engaged in combat might require silence or tactical dialogue, while others might need to discuss strategies or immediate surroundings, and some might indulge in casual conversations. One casual player remarked:

*“Cooperation isn't easy, sometimes you need to ask your teammates for something, but you don't always get a response because in the end everyone is caught up in their own gameplay, they are focused and respond distractedly, with just a word or two” (P01).*

This variety in gaming scenarios and player requirements leads to diverse communication types, creating a community dynamic that fluctuates between serious, tactical discussions and more relaxed or frustration-based exchanges.

## **3.2 How Esports Players Communicate: A Comparison with Casual Players**

### **3.2.1 Frequency Distribution of Communication Categories Across Casuals and Esports Players**

In this section, I explore the communication patterns among players, distinguishing between casual and Esports gamers. Detailed frequencies are available in Table 9 and 10, while a visual representation of the differences at a macro level is offered in Figure 3.

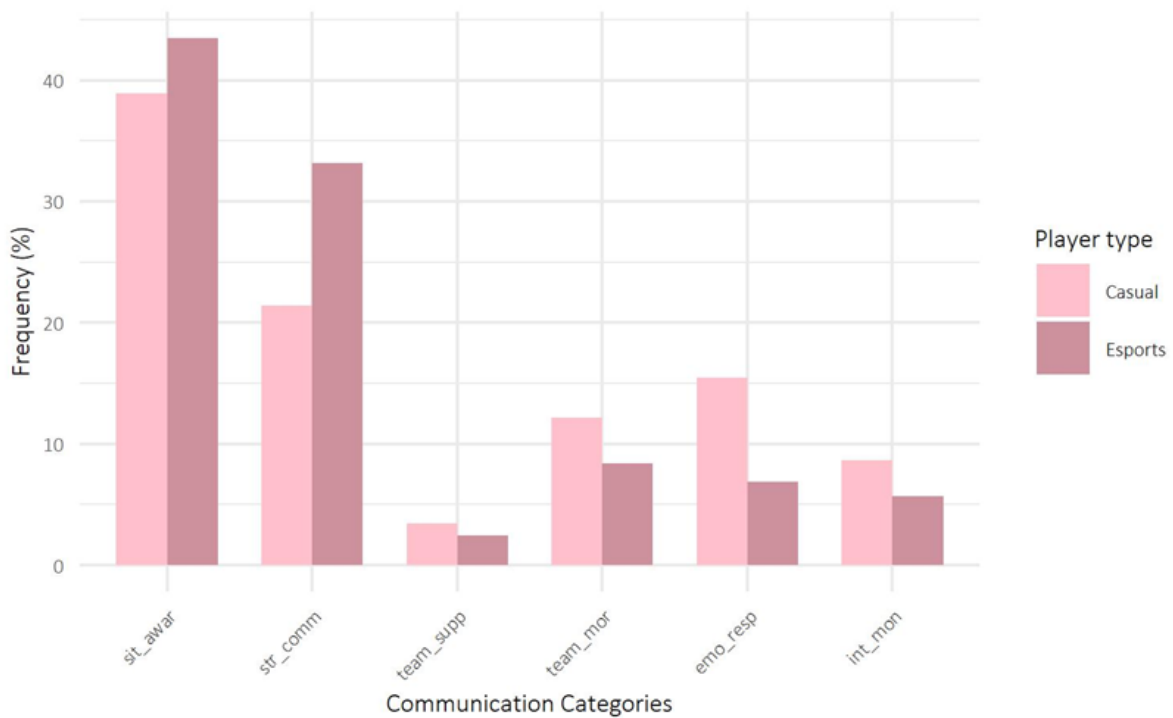
The initial focus of the analysis was on the quantitative aspect of communication, observing that the utterances among professionals tend to be more succinct, averaging 1.20 words each, compared to casuals' 2.87 words. This indicates that while Esports players communicate more frequently, their utterances are more concise. When analyzing the content of these communications, significant differences between casuals and Esports

players are evident at both macro and micro levels: the most substantial differences span various categories, with the most pronounced contrasts observed in Strategic Communication and Emotional Responses. These variances highlight the distinct communication approaches adopted by each group.

*Table 9. Differences in communication categories among casual and Esports players: frequency distribution*

<b>Communication category</b>	<b>Frequency (%) Casuals</b>	<b>Frequency (%) Esports players</b>
Situational Awareness	21.4%	33.2%
Strategic Communication	38.9%	43.5%
Team Support	3.4%	2.4%
Team Morale	12.1%	8.4%
Emotional Responses	15.5%	6.9%
Internal Monologue	8.6%	5.7%

Figure 3. Visual representation of communication categories among casual and Esports players



Legenda: “sit\_aware” = Situational Awareness; “str\_comm” = Strategic Communication; “team\_supp” = Team Support; “team\_mor” = Team Morale; “emo\_resp” = Emotional Responses; “int\_mon” = Internal Monologue

Esports players show a greater inclination towards Strategic Communication (33.2%) compared to casual players (21.4%), including a higher usage of “Command” statements (10.7%) and a bit more “Suggestions” (6.2%), which illustrates their tendency to take charge and guide the team’s actions. On the other hand, casual players are more reserved in issuing direct commands. Esports participants also more frequently share their “Opinions/Analysis” (8.6% vs. 5.0%), showcasing their ability to contribute to the game sharing meaningful insights. In terms of making “Observations”, casual players do participate, but slightly less often (13.6%) than their Esports counterparts (16.0%), who are more active in observing and commenting on gameplay, a fact which is also evidenced by a greater involvement in “Team State” discussions (2.3%): this reflects their tendency to keep the team informed about collective resources and positioning.

A notable difference is observed in the frequency of Emotional Responses, with Esports players showing significantly less of these statements (6.9%) compared to casual players (15.5%). This indicates that casual players’ communications are more weighted towards the social and emotional dimensions of gaming. They have higher instances of expressing “Anger/Frustration” (8.0% vs. 3.9%) and “Joy/Laugh” (3.5% vs. 1.2%), pointing to a richer emotional content in their interactions; they also engage more in “Non-work/Social” conversations (9.3% vs. 5.4%), suggesting a preference for building social connections beyond game-related talk; moreover, they tend to share their personal reflections on the game aloud (“Thinking Out Loud,” 6.7% vs. 3.9%). However, it is important to note that this set of reflections tends to be more about personal processing rather than aimed at collaborative team communication – and this is the reason why such utterances were not coded as “Opinion/Analysis”:

Table 10. Differences among communication content types among casuals and Esports players: frequency distribution

Communication category	Frequency (%) Casuals	Frequency (%) Esports
Command	6.7 %	10.7 %
Suggestion	4.2 %	6.1 %
Opinion, Analysis, and Evaluation	5.0 %	8.6 %
Observation	13.6 %	16.0 %
Team State	1.4 %	2.3 %
Non-work/Social	9.3 %	5.4 %
Anger and Frustration	8.0 %	3.9 %
Joy, Laughter, and Relief	8.0 %	3.5 %
Thinking Out Loud	6.7 %	3.9 %

**3.2.2 Qualitative Insights: The Control of Language among Esports Players**

The qualitative and ethnographic research into the communication patterns among different types of players highlights stark contrasts between casual and Esports gamers. Casual players, who are more flexible about their team compositions, often play with available players at any given moment. This approach leads to teams that frequently change, mixing players of various skill levels and experiences. Such diversity, while enriching, can complicate the development of a cohesive, intuitive understanding among team members. The emotional dynamics also diverge significantly; one player, transitioning from Esports to casual gaming, remarked on the relaxed and enjoyable nature of playing with friends but noted the distractions it can cause, such as missing crucial audio

cues due to overlapping conversations, which is less likely in the more disciplined environment of competitive play where communication is primarily decision-oriented.

Esports players demonstrate a strict control over communication during games, often minimizing or outright discouraging non-constructive behaviors like excessive complaining or expressions of anger to avoid distractions, particularly in tense situations. They use specific cues to signal the need for silence or focused communication, sometimes muting disruptive team members to maintain a conducive gaming environment (see Excerpt 2). This disciplined approach is partly due to the professional mindset of Esports gamers, who may seek to maintain a certain level of decorum, possibly because of their public persona as streamers or their view of gaming as a sport where respect is paramount.

*Excerpt 2. An extract of a conversation among players from gaming session n. 22*

(PL30): “Oh \*\*\*!” *Shot – on the ground.*

(PL20): “Look at this \*\*\*! No, c’mon...” *Dead.*

(PL20): “He’s in the bush, guys!”

(PL20): “No no no no no no no no”

(PL20): “Audio, please, bro”

(PL30): “No, c’mon...” *Being shot in the gulag.*

(PL20): “Oh my god, this \*\*\* guy!” *Dead in the gulag.*

(...)

(PL20): [to PL30] “XXX [anonymized], there are four people...”

(PL21): “No no no no no!” *Being shot – on the ground.*

(PL21): “What the heck...!” *Dead.*

(PL24): “Sigh...!” *Blows into the microphone loudly.*

(PL30): “Comms, comms, boys, comms”

(PL20): [inaudible] *Talks into the microphone loudly.*

(PL30): “Comms, boys”

(PL30): “Wait, I’ll mute his mic for a moment” *Talks to himself, mutes the microphone of PL20.*

Moreover, the visibility and documentation of gameplay differ markedly between casual and Esports contexts. Esports matches, especially in tournaments, are frequently recorded and publicly shared, unlike casual gaming sessions. A notable event that shows this dynamic occurred when an Esports player was accused of cheating while playing a tournament, based on the observations of a streamer that was watching the game. Due to

the streamer's allegations, the player was forced to stop participating in the tournament and provide evidence that his game was fair. Despite this, the hackusations did not stop and the player's reputation was negatively affected as he could not prove the streamer wrong. This episode shows that this public scrutiny, while intense, serves as a form of regulation within the Esports community, helping to moderate inappropriate communication and fostering a more respectful environment, but it could also foster the surveillance culture described in Section 2.3.2. When surveillance does not lead to uncomfortable situations for players, it could effectively balance the absence of formal regulatory mechanisms and lessen the spread of verbal aggression and insults which are typical of competitive gaming environments.

In conclusion, the communication dynamics within Esports and casual gaming contexts are markedly distinct, with Esports players favoring a more strategic, controlled form of interaction, while casual players enjoy a more freeform and emotionally expressive style of communication. The following section will delve deeper into the nuances of communication within Esports, examining how different settings, such as streaming and tournament play, influence the way Esports players communicate.

### **3.2.3 Detecting Differences in Communication Between Different “Contexts” of Play**

#### *3.2.3.1 Frequency Distribution of Communication Categories Among Streaming and Tournaments*

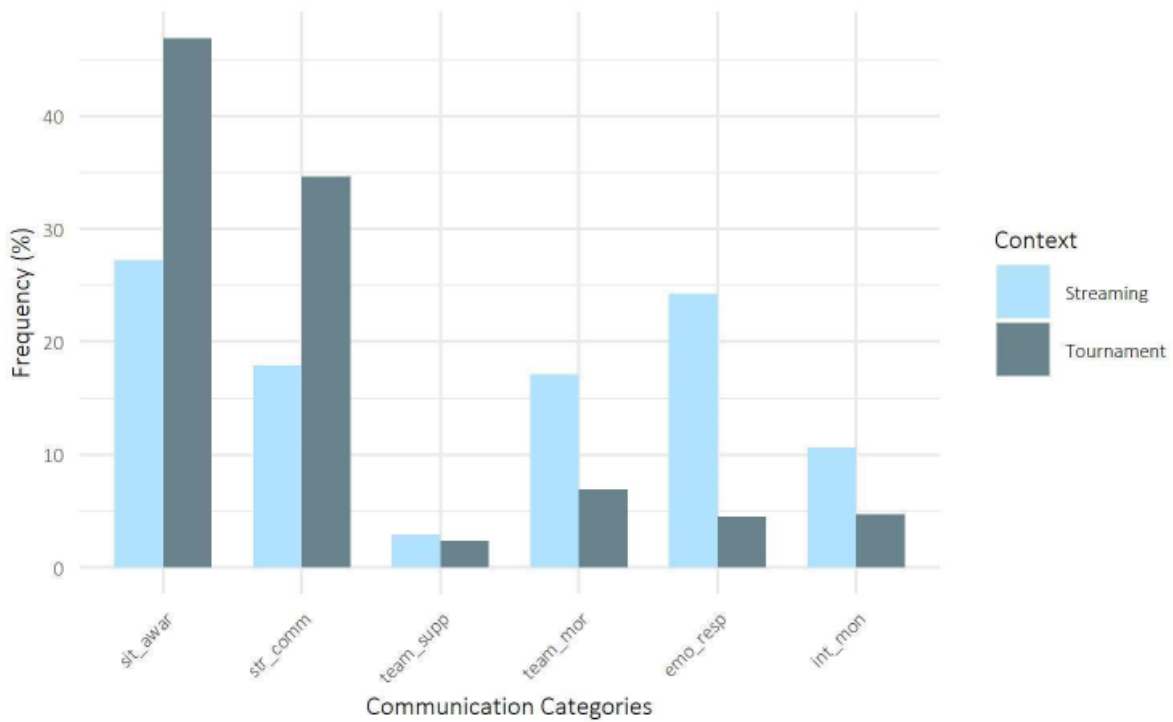
In the previous section, I examined the communication styles and content types of different players, who might view gaming either as a leisure activity (i.e., casual players) or as a profession (i.e., Esports players). Until now, I have treated Esports players as a uniform group. However, participating in streaming activities or tournaments represents distinct experiences that occur within different contexts, as detailed in the Background Section. To delve deeper into the Esports domain, we will now compare the communication patterns observed within these two specific contexts.

#### *3.2.3.2 Frequency Distribution of Communication Content Types Across Streaming and Tournaments*

The communication instances we looked into, totaling 3,050, were broken down into 855 for Streaming activities and 2,195 for Tournament play. These instances underwent a re-

analysis, not just at the aggregate category level (as depicted in Figure 4 and Table 11) but also at the level of specific communication content types, when the sample size allowed for it (refer to Table 12). Across these categories - apart from the Team Support category, which was excluded from previous analyses, differences emerged.

Figure 4. Visual Representation of Communication Categories Among Streaming and Tournaments



Legenda: “sit\_aware” = Situational Awareness; “str\_comm” = Strategic Communication; “team\_supp” = Team Support; “team\_mor” = Team Morale; “emo\_resp” = Emotional Responses; “int\_mon” = Internal Monologue

Table 11. Differences in communication categories among streaming and tournaments: frequency distribution

Communication Category	Frequency (%) Streaming	Frequency (%) Tournaments
Strategic Communication	27.3%	46.9%
Situational Awareness	17.9%	34.6%
Team Morale	17.1%	6.9%
Emotional Responses	24.2%	4.5%
Internal Monologue	10.6%	4.7%

In tournaments, strategic communication among Esports players is significantly characterized by the sharing of “Opinions/Analysis/Evaluations” (9.6%) and offering “Suggestions” (7%). This trend indicates that players employ a wide range of communication methods to invent and execute their game strategies. A key feature in both tournaments and streaming is the consistent focus on “Situational Awareness.” Yet, tournament participants distinctly emphasize game-centric communications, especially in terms of “Observation” (17.8%), markedly differing from streaming context (9%). Additionally, tournament players more frequently initiate “Questions/Inquiry” (6.6%) to gather critical environmental insights from teammates, a practice less common among streamers (3.5%).

Socio-emotional dynamics also vary significantly between the two contexts. During streaming sessions, Esports players often partake in “Non-work/Social” interactions (15.1%), diverging from the more game-focused conversations in tournaments (3.9%). The streaming environment, geared towards entertainment, also sees a higher prevalence of “Humor/Taunting” (4.8%) compared to tournaments (0.5%), and “Joy/Laugh” (7.7%), indicating a more expressive and engaging atmosphere, in contrast to tournaments where such expressions are less common (0.8%). Moreover, streaming sessions reveal a heightened visibility of negative emotional expressions like “Anger/Frustration” (11.1%), starkly contrasting the more contained instances in tournaments (2.6%).

Notably, communication during streaming extends beyond direct game-related interactions or teamwork. A considerable amount of communication is characterized as Internal Monologue, with players often engaging in “Thinking Out Loud” (7.3% vs. 3.5% in tournaments), where they verbalize their thought processes and strategies, highlighting a unique aspect of streaming that enriches the viewer experience.

*Table 12. Differences in communication types among streaming and tournaments: frequency distribution*

<b>Communication content type</b>	<b>Frequency (%) Streaming</b>	<b>Frequency (%) Tournaments</b>
Suggestion	2.4 %	7.0 %
Opinion, Analysis and Evaluation	1.5 %	9.6 %
Observation	9.9 %	17.8 %
Questions and Inquiry	3.5 %	6.6 %
Agreeing and Acknowledgment	3.5 %	6.6 %

### 3.2.3.3 Qualitative and Ethnographic Observations of Communication Patterns Across Streaming and Tournaments

Qualitative observations support the notion that there is a substantial difference in communication styles between tournament play and simple broadcasting gaming sessions on gaming platforms. Specifically, in tournaments, players are intensely concentrated on the game, devoting all their energy to gameplay. This focus was exemplified by an informal conversation with a professional player (ICog), who has made the shift from exclusive tournament participation to becoming an entertainment-focused streamer. He highlighted the drastic differences between the two, noting: *“In tournaments, every bit of your energy is funneled into the game, leaving no space for distractions... even minor gestures or expressions can be a drain on your resources.”*

Conversely, when streaming, Esports players often include friends or arrange play sessions with followers, cultivating an “emotional” environment. According to the ethnographic observations, streamers find themselves balancing the need to maintain their status as proficient players while also delivering an engaging and emotional show. This balancing act leads them to incorporate communication tactics common in tournament settings - like sharing strategies, noting observations, and issuing commands, into their streams. Yet, at the same time, streaming is distinctively more emotional, a quality both players and viewers appreciate. Informal chats with players suggest that streamers who manage to entertain, even via displaying emotions like anger, are often favored over those who might play better but show less emotion. This preference underscores streaming’s performative aspect, aimed at captivating the audience through a wide range of emotions.

Furthermore, streaming sees Esports players often diverting their attention from the game and teammates to interact with their audience online. This interaction manifests in various ways, such as engaging with followers, endorsing products or services, and actively participating in chat discussions. The practice of “thinking aloud,” as revealed by the analysis, is not just a means of self-reflection but also extends to viewer interactions, fostering a conversation that goes beyond the team and the game itself, as shown in the extracted excerpts from the recorded gaming sessions (Excerpt 3, 4 and 5). It is interesting to observe how players utilize these utterances: sometimes as a way to converse with

themselves, particularly when they are dissatisfied with their in-game performance, and at other times, their remarks are clearly aimed at the audience.

*Excerpt 3. Example of a conversation involving a professional player and the teammates in the gaming session n. 23*

(PL22): "There's another one below."

(PL33): "Let's go boys!" [in English in original] *He looks at the camera.*

(PL33): "Hey bro, my dear, how are you?" *Directed at subscribers writing in chat*

(PL22): "They're pushing me."

(PL22): "I think I'm going to leave."

(...)

(PL33): "I try to set the sensitivity to make it fun, guys..." *He looks at the camera*

(PL33): "When the moments are critical in COD, the solution is to raise the sensitivity and go crazy." *He looks at the camera*

(...)

(PL33): "Hey XXX! [anonymized]" *Sings; Directed at subscribers writing in chat*

(PL22): "Oh, it's full by me, it's really full, I swear, I swear, I swear!"

(PL26): "But you're alone."

(PL25): "Can I tell you that I don't give a damn that it's full?" *Laughing*

(PL22): "Hahahah" *Laughing*

(PL33): "How are you guys?" *Addressing the followers writing in chat*

*Excerpt 4. Example of a conversation involving a professional player and the teammates in the gaming session n. 23*

(PL22): "I've lost the gulag, I've lost the gulag, I swear to you!" *Talking to himself*

(PL22) "I've never lost, I've never lost... never lost a gulag in my life... never! Never! Like... Damn!" *Talking to himself*

(PL33) "But guys, where is he?"

(PL22): "XXX, get the fuck out, XXX is dead..."

(PL33) "Your father is a dog! If you can hear me! Are you hearing me?" *Talking to the enemy who killed him*

(PL33) "It's impossible to lose this wager" *Laughing*

(PL33) "Now I'm going to revive you all, revive you all..."

(PL25) "Damn, that shitty shotgun..." *Talking to himself*

(PL33) "Anyway guys, you know that the sound equalization sucks? I can't hear anything, like..."

(PL22): "No dude, that's not true..." *Talking to himself*

(PL22): "You didn't revive me, did you?" *Talking to PL33*

(PL25) "It seems strange to me, though..." *Talking to himself*

*Excerpt 5. Example of a conversation involving a streamer and the teammates in the gaming session n. 20*

(PL30) "Come on now, Christ" *Whispering*

(PL22) "Uff" *Sighing*

(PL30) "Come on..." *Whispering*

(PL30) "Come on, I have no ammo, I have to give up..." *Talking to himself*

(PL30) "Nothing..." *Failed attempt to find ammunition*

(PL21) "You've got people behind you" *Talking to PL30*

(PL30) "I heard"

(PL24) "XXX, how's it going there?" *Talking to PL30*

(PL30) "uh... look." *Answering to PL24*

(PL24) "ah okay, all good"

(PL30) "I don't know, it won't die, I don't know!" *Shouting at the monitor*

(PL24) "Tryharder lobby..." *Whispering*

(PL30) "Guys, he just won't die!" *Shouting at the monitor*

As highlighted by one player, engaging with followers can significantly boost interaction levels, though this practice is not without its challenges: *"I consider myself a streamer with 400 subscribers, but I'm not at the level of others (...) I need to get better. For example, I find it hard to interact with people while I'm playing (...) to make sure that people come to and stay on my live stream."* (ICo8) This effort to connect with viewers can sometimes lead to moments where players temporarily disengage from the game, as evidenced by our communication analysis.

In summary, the communication style of Esports players during streaming sessions or tournaments is shaped by the unique demands and expectations of these environments. Tournament play requires a more strategic and concentrated form of communication, where focus on the game is paramount. Conversely, streaming offers a space for a more expressive and entertainment-driven style, where engaging the audience and showcasing a range of emotions are as important as gaming skills, thereby merging expertise in gaming with a flair for performance.

### 3.2.4 Main takeaways

**Professional and Casual Players' Communication styles.** Communication styles in Warzone significantly differ between casual and Esports players. Casuals tend to engage more in socio-emotional interactions and express a broader range of emotions, including frustration and anger, while Esports players exhibit a more concise and strategic approach to communication, focusing on efficient information exchange and rapid coordination. Casual players often express higher levels of negative emotions like anger and frustration, while Esports players, especially in tournament settings, demonstrate more controlled expressions of negativity.

**The impact of gaming context on communication.** Findings indicate not only variations in communicative behaviors based on player abilities but also the significant influence of the surrounding “context”, including gameplay motivations and potential rewards. Casual players, often playing for fun, predominantly focus on social interactions, yet experience considerable emotional turbulence, particularly among less experienced gamers. Streamers, with their leisure-oriented and expressive communication style, often show a degree of disengagement from the game, dividing their attention between in-game activities and interactions with fans or internal monologues. In stark contrast, players in competitive tournament settings demonstrate intense focus on the game, employing a wide array of communicative strategies for strategic gameplay.

**CHAPTER 5. DISCUSSION**

## **1. General Discussion and Theoretical Contribution**

The primary objective of this study was to explore the dynamics of gameplay within the Warzone community, encompassing both casual and Esports contexts, which includes competitive play and streaming. The aim of the discussion presented in this chapter is to bring together the psychological and social aspects of gameplay, examining both its bright and dark sides, from community engagement, team, and communication dynamics to the phenomenon of cheating. The findings of this study make two primary contributions to existing literature.

The first contribution of this study (Section 1.1) consists of a nuanced understanding of the relationship between casual and Esports gaming within the Warzone community. On the one hand, there is a clear distinction between casual and Esports players, which constitute distinct categories or approaches to the game, reflected in their approach to gaming and communication styles; on the other hand, the infiltration of “serious dynamics” in the realm of casual gaming necessitates a continuous renegotiation of the activity’s meaning among players, with consequences on the social and organizational dynamics observed.

The second contribution (Section 1.2) expands the understanding of cheating, a dark antisocial practice, as a socio-technical phenomenon. The analysis goes beyond viewing cheating as merely a violation of game rules, while situating cheating within a larger framework that considers both the interactions between the players that constitute the Warzone community and the technical systems of the game, comprising the set of mechanics, rules, and other foundational game elements. The study also reveals the impact of cheating on the community, noting the emergence of increased vigilance and monitoring behaviors among players, in other terms, a “surveillance” attitude.

### **1.1 First Contribution. The Challenge of Unstructured Casual Play**

In the first part of the discussion, I discuss the social and organizational dynamics that distinguish casual players from their Esports counterparts. The results show that a profound divergence exists between these two categories of players, despite the fact they operate within the same gaming environment, and that this difference is particularly

evident in their communication patterns. Specifically, Esports players exhibit a communication style marked by precision and strategic focus, employing emotion regulation to optimize performance or engage their audience during streams, while casual players tend to express more negative feelings, such as anger and frustration.

Despite these differences, Warzone features a complex array of dynamics that blur the traditional lines between serious and leisure play. For instance, the detailed analysis of in-game communication has revealed that streamers tend to blend the structured, strategic language that is typical of competitive gaming with the expressive, emotive language typical of casual play. This, coupled with other observations of the Esports community, indicate that a “for fun” approach to the gaming activity persists within Esports, and in particular within streaming contexts. Similarly, the observations of casual gaming activity reveal an interplay of serious and playful dynamics: players often find themselves “negotiating” over the purpose or meaning of their gameplay, oscillating between a more serious or relaxed approach. This impacts the organization of gameplay: typically, there is no defined leader, and players often resort to conflict avoidance strategies when issues arise within the group. While these strategies may temporarily preserve harmony, they risk undermining the long-term stability of the group, which tends to be less stable and with fluid boundaries.

These insights shed light on the nuanced experiences within online multiplayer games. In contrast to the structured world of Esports, where shared rules and clear objectives guide player interactions and competition, casual gaming often lacks the same level of cohesiveness. Due to the absence of a clear framework, including a structured leadership and clear norms in casual players, individuals find themselves less equipped to navigate the social dynamics that arise within the game, such as resolving conflicts and managing leadership. This unstructured environment, while flexible, risks detracting from the enjoyment of the game.

## **1.2 Second Contribution. Looking for Targeted Solutions to Cheating**

The final section of the discussion addresses the pervasive issue of cheating within Warzone. Cheating represents a significant, albeit “invisible,” threat that introduces

uncertainty and suspicion among players, eroding the perception of fairness required from competition and enjoyment of the gaming experience. The widespread presence of cheaters has immediate consequences for players: gaming skills and genuine abilities are overshadowed, since optimal results in the game can be obtained through manipulation rather than intense training and effort, as would be expected of fair players. Furthermore, because cheaters are not easily detectable, the belief that cheaters infest the gaming lobbies hinders teamwork and collaboration and fosters a climate of suspicion and surveillance that diminishes the overall enjoyment of the game.

Unfortunately, cheating is a pervasive issue that extends across all player types, including both casual and Esports contexts, despite the consequences of suspicion differently impacting these types of players. For casual gamers, the proliferation of cheating is mostly detrimental to the experience of the game, eroding the playful aspect and potentially leading to decreased engagement and a damaged atmosphere within the community. Instead, for Esports players, cheating is a more serious issue, as it undermines competitive integrity and the fairness essential to professional gaming's credibility and success. In this sense, it poses a direct threat to their investment in skill development and the potential professional stakes involved.

This study's insights underscore the importance of addressing the specific concerns of both groups to develop effective and targeted anti-cheat measures which should allow competitive play to remain fair and transparent and preserve the playfulness of the casual gaming experience. This dual focus is not just about safeguarding the game's integrity but also about fostering a gaming environment where trust, skill, and strategic attitude are valued, and where players can find a place free from the consequences of dishonesty.

## **2. First Theme. Organizational Dynamics in Warzone**

This theme deals with Warzone's organizational dynamics, exploring how life within the Warzone community and the gaming organizations, known as Regiments, occurs. Most findings discussed originate from Section 1 of the Results, although they are supplemented by insights beyond this section.

## 2.1 Transition from Casual Regiments to Esports Organizations

This ethnography highlights the importance of community engagement and Regiments in shaping the Warzone gaming experience. Regiments of casual players operate as miniaturized societies, fostering complex social interactions that extend beyond gameplay to include socialization, learning, and even emotional support. In fact, the bonds formed within these groups are significant, with players sharing not only strategies but also personal experiences. The COVID-19 pandemic has notably intensified these connections (see Section 1.2) as Warzone acted as a virtual refuge providing a semblance of normality amidst global chaos. This game's role as a social platform resonates with previous research on the importance of online games during emotionally challenging times (Banks & Cole, 2016; Haqq & McCrickard, 2020; Iacovides & Mekler, 2019).

These organizations may be similar to “communities of practice”, which are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis (Wenger, 1998; Wenger et al., 2002, p. 4). Viewing these organizations through the lens of the construct of “communities of practice” provides a richer understanding of how these groups develop and maintain shared practices and competencies (both tacit and explicit) through mutual engagement. When forming Regiments, players engage in shared practices that go beyond mere gameplay: they form social bonds, develop common in-game strategies, and exchange game-related knowledge, often learning the game through mentorship (see Section 1.1.2). Moreover, social interactions within Regiments extend to discussions about game updates, relevant news, and norms of behavior, which are essential to the formation and maintenance of the community.

Despite the richness of these interactions, these organizations are characterized by their temporary nature (see Section 1.2.3), illustrating the inherent contradiction in online relationships, which can be intensely close yet lack the endurance of more substantial, “real-life” connections. This duality reflects the concept of “weak ties” (Granovetter, 1973), indicating intense relationships that lack the depth and resilience of “strong ties” developed in physical settings. Drawing from research on relationships in digital environments (e.g., Doerfel & Moore, 2016; Liao et al., 2020; Poor & Skoric, 2014), these

“ties” are weak because of the inherent characteristics of digital communication, such as the lack of face-to-face communication and the ease of connecting and disconnecting. Complementing these insights, this study further explores the fragility of these relationships, exacerbated by the dynamic nature of Warzone, which demands regular skill refinement and adaptation to new game updates (see Section 1.1.2). This evolving commitment can lead to leaving the Regiment due to boredom, dissatisfaction, or time constraints which do not allow dedicating time and effort to the game and the community, as it would be required. Despite the challenges of managing such communities, reminiscent of the complexities faced by guilds in MMORPGs like World of Warcraft in terms of internal cohesion and longevity (Ducheneaut et al., 2006), some of the relationships built in Warzone have endured even in the post-pandemic era, as individuals adjusted both practically and psychologically to the emergency (Boldi & Rapp, 2023).

In this period, when some Regiments were dismantled, other game organizations transitioned into more formalized entities, like Esports amateur associations (see Section 1.2.3). This shift from leisure-oriented engagements to goal-oriented and “serious” organizations highlights the potential for purpose-driven organizations to forge stronger social ties and a higher sense of shared purpose. The transition from casual Regiments to more formalized and structured Esports organizations follows the evolution and development of these communities of practices. Compared to the fragility of casual Regiments, these more formal organizations, with their shared commitment to a common goal, can forge even more durable and resilient bonds than those observed in “for fun” organizations. A similar dynamic was also observed by Rapp (2020) in WoW guilds: these organizations often exhibit clear hierarchies and roles which allow the management of the guild’s activity, channel players’ efforts to facilitate the achievement of collective goals. Similarly, Jasny (2019) described the structured nature of *Magic: The Gathering (MTG)* communities, where players often form “testing groups” to prepare for high-level competitions. These testing groups embody the characteristics of communities of practice by fostering a domain of common interest, a community of individuals establishing relationships, and a shared practice of developing game tactics and strategies.

These results contribute to the discourse on the strength and nature of social connections in online communities, emphasizing how formal Esports organization and shared goals can

enhance the stability and depth of digital social groups, even within the inherently fluid and transient context of online gaming.

## **2.2 Continuous Learning in Warzone: The Role of Streamers**

Warzone attracts a diverse and large audience, from seasoned gamers to newcomers, largely due to its free-to-play model which provides a platform for social connection and entertainment. This became significant during the COVID-19 crisis, when video games became a way to cope with the stress caused by the pandemic (Ballou et al., 2022; Kleinman et al., 2021). The expanded player base, however, had the consequence of creating a learning gap between new players and those already adept at navigating the game's mechanics. Moreover, Warzone's constant updates (see Section 1.1.2) introduce a need for ongoing adaptation, demanding continual adjustments from its players.

This need for constant learning of the game functioning aligns with previous findings on the game updates, which can significantly transform the gaming experience and player strategies (Hyeong et al., 2020; Zhong & Xu, 2022), introducing cognitive challenges and costs for the individual (Bergman and Whittaker, 2018). In such conditions, this study emphasizes the role of the gaming community for learning, where players seek guidance from more experienced members, such as content creators and streamers, to learn. These figures may influence player strategies, by serving as virtual mentors and coaches (see Section 1.1.3). This finding should not be surprising because one of the primary reasons people engage with streamers is to learn, as previous research showed (Sjöblom & Hamari, 2017; Hamilton et al., 2014).

With respect to previous literature, this study underscores the significance of the gaming community in bridging this learning gap, where experienced players, content creators, and streamers play pivotal roles as “educators.” However, the reliance on these influencing figures could potentially standardize the gaming experience, diminishing the value of personalization and self-expression in video gaming (Szolin et al., 2023; Przybylski et al., 2012). The phenomenon of *parasocial interactions*, where players form one-sided relationships with these media figures (Horton & Wohl, 2016), may therefore lead to the widespread adoption of a “player model”, a set of prescribed strategies and behaviors,

which may result in a homogenized gaming experience. On the bright side, it is also worth remembering that this collective understanding of game mechanics and player roles, described in the result section as a “mental model,” (see, for instance, Section 2.2.2.) is also essential for optimizing performance, particularly in esports contexts (Musick et al., 2021), revealing the importance of having a shared understanding of the game.

Moreover, the game’s design, which may require players to engage in repetitive tasks like “farming” or “grinding” to unlock specific in-game items (Goggin, 2011; Dibbell, 2016), can either push players towards in-game purchases, aligning with a “pay to win” model (Gibson et al., 2022). Alternatively, it can also lead to using cheating software, a path some players choose not out of a desire to harm others but as a way to enjoy the game more fully and with less burden (see Section 2.1.1). It is then possible that some players might see cheating as a form of “resistance” against the game’s push for constant adaptation and performance improvement. A similar dynamics of resistance was found by Švelch (2019), who explored how players actively resist updates and patches in video games, not only because they want to avoid new game mechanics, but because they want to resist the control exerted by game developers and platforms and gain control and autonomy.

### **2.3 Negotiating the Meaning of Gaming**

In Warzone, the dynamics of team formation often reflect a preference for playing with known teammates or friends (see Section 1.3.1.1), highlighting the importance of familiarity in virtual teams (Robert et al., 2014). However, another trend is observable among casual players, who often form teams spontaneously with less familiar players - even if they belong to the same Regiment. This situation highlights the transient nature of interactions in online communities, where players form relationships that can be goal-oriented (Steinkuehler & Williams, 2006; Rapp, 2018b) rather than purely driven by social motives. This leads to creating teams that are composed of players having a mix of skills and motivations to play. These ad-hoc team formations can encounter friction due to players’ misalignments: for instance, more skilled players may become frustrated with less skilled teammates for not being sufficiently supportive or for failing to follow their lead, while the latter struggle with the often-aggressive play of more skilled players, exposing them to critical situations (see Section 1.3.2.2). This scenario is in line with Ducheneaut et al. 's

findings (2006), highlighting that, while many players are motivated to play by the potential for social interactions in these environments, they do not necessarily experience cohesive team dynamics because such interactions can often be superficial or merely instrumental. Players then experience being “alone together”, meaning that they often operate independently despite being surrounded by others.

With respect to previous literature, I underline the role of the game’s design in fostering this dynamic, which was interpreted considering the game elements introduced in Warzone such the use of individual statistics and performance metrics (see Section 2.1.1 in Chapter 3). Players may be pushed to prioritize personal achievements over team success and therefore have a more individualistic approach to gameplay. This interpretation aligns with Riar et al. (2023), who claimed that game design may be responsible for the enactment of egoistic behaviors, with “individualistic” game features such as leaderboards, points, and achievement badges encouraging players to pursue personal gains instead of collaborative objectives. This tension, between the drive for personal recognition and collective success might be responsible for some of the frictions observed in these ad-hoc teams. Similarly, Esmaeili & Woods (2016) observed similar dynamics in World of Tanks, whose emphasis on statistics and personal rankings directly influences players behaviors, pushing them towards performance-driven actions. The visibility of statistics can not only intensify the competitive atmosphere, but also detract from players’ enjoyment. Moreover, this design approach may contribute to team frictions, as less skilled players often become targets of cyberbullying and verbal abuse: as players are more interested in climbing their own rankings, their tolerance for mistakes and bad performance diminishes, thus exacerbating internal conflicts.

Moreover, the ethnography finds that friction in casual teams stems not only from disparities in skill but also from differing attitudes towards the gaming activity (see Section 1.3). Players exhibit a wide range of engagement approaches, extending from competitive and serious orientations to those primarily seeking relaxation, without being deeply invested in the outcomes of games. This spectrum of engagement is particularly evident in the diverse perceptions of the importance that teamwork holds among players (see Section 1.3.3), which can be largely attributed to the varying personal significances attached to the act of playing. For some individuals, gaming serves as “third place,” or a

simple social venue (Oldenburg, 1989; Frostingl-Henningsson, 2009), which functions as a neutral, inclusive space apart from home and work, where individuals gather for camaraderie and social engagement, rather than focusing on performance and harsh competition. Instead, others prioritize the game's competitive aspect, finding satisfaction in strategic teamwork, constant push to improvement, and winning.

With respect to previous literature, this study suggests that tensions may also arise from a misalignment in how players "frame" the game's activity: within this frame, players include the objective of engaging in the game, the underlying rules of interaction with other players and expected behaviors from others. This indicates a need for deeper exploration into casual players' gaming motivations and their impact on social dynamics.

## **2.4 Main Takeaways**

This first theme explored the social landscape of Warzone, with particular regard to casual gaming organizations and the broader community engagement, revealing the dual nature of relationships within Regiments, which are both strengthened by the game's significant social role during the COVID-19 pandemic and marked by the transience typical of online interactions. Additionally, this first theme considered the parasocial bonds formed between casual players and streamers/Esports players, who serve as vital educators and facilitators of continuous learning. This distinction highlights potential areas of tension within casual gaming teams, affecting team dynamics. The next theme will discuss how these structural variations shape interactions within gaming teams in casual and Esports contexts.

## **3. Second Theme. Social and Emotional Dynamics in Warzone Teams**

This topic delves into the intricate socio-emotional interactions that arise among Warzone teams, thereby providing a detailed comparison of casual and Esports gameplay. Through examining the communications made by players during their games, it is possible to identify notable disparities in gaming behaviors and social interactions, including how

leadership is exerted, how decisions are made, and conflicts are resolved. Additionally, the study investigates the variances in gaming experiences across different contexts, such as participating in tournaments versus streaming sessions on social media platforms. This analysis implies that the Esports environment is not uniform and, instead, exhibits a diverse range of social practices and dynamics.

### **3.1 Playing Warzone: Oscillating Between Strategic Communication and Solitary Gameplay**

A key finding of this study is the prevalence of “Situational Awareness” and “Strategic” Communication in Warzone, with respect to other communication aimed at bolstering team morale and providing support (refer to Section 3.1.1). These results resonate with existing studies that emphasize the role of information exchange in virtual gaming teams (Tan et al., 2021; Tan et al., 2022; Perla et al., 2000), yet diverge from research stressing the value of supportive communication within teams, such as offering encouragement (Baldauf-Quilliatre & de Carvajal, 2020). This might depend on the need of prioritizing direct information exchange over social expressions, since interruptions can negatively impact communication and coordination (Leavitt et al., 2016).

Compared to casuals, Esports players show an even greater tendency towards “Strategic” Communication (see Section 3.2.1), probably due to a more serious approach to gameplay, since a good performance necessitates efficient information sharing and decision-making to succeed and win the match. Constant information sharing would compensate for the lack of physical presence, since Esports players cannot really count on “tacit coordination” to organize their action, as other high-pressure teams such as military or emergency medical units (Rico et al., 2008; Xiao et al., 2001) and sports teams (e.g., Bourbousson et al., 2011). As already stated by Freeman & Whon (2019), while in these teams, members can rely on an implicit form of organization, Esports players lack physical interaction, which must be compensated through continuous overt and explicit verbal communication.

These results, and their interpretation, contrast with those of Bennerstedt & Ivarsson’s (2010) who, instead, examined how players use non-verbal cues and virtual actions rather than relying on chat and verbal communications to understand each other’s behavior

within the game environment. The reason for this difference likely resides in the distinct design of the game analyzed in my research and in Bennerstedt & Ivarsson's work: while the MMOs studied by the authors (*Lord of the Rings Online*, *World of Warcraft*, and *Age of Conan*) support a style of play that fosters strategic collaboration, compensating for the lack of physical presence, Warzone necessitates quick and precise verbal communication to navigate an unpredictable and fast-paced environment. This underscores the importance of considering the genre and design of the game when studying human behavior in gaming contexts.

Conversely, an observable trend among players points to the occurrence of "Internal Monologue," where players vocalize thoughts that are not intended for or addressed to their teammates, indicating moments of disengagement from the group. This occurrence is notably more frequent among casual players than among Esports players (see Section 3.2.1) and, within the Esports context, more utterances classified as "Internal Monologue" are pronounced during streaming sessions (see Section 3.2.3), where players direct their comments more towards their audience than their team. This pattern of communication is somewhat reminiscent of the AFK (Away from Keyboard) behavior phenomenon, which is widely recognized in online gaming and internet culture as the act of not participating in the game for a period of time (e.g., Skågeby, 2011; Kwak et al., 2015). The observed disengagement from the game could be influenced by the technological setup of gaming, which connects players who are dispersed and physically isolated only through microphones: while allowing distant communication, these conditions can also impede a richer social interaction, making casual players feel more like solitary individuals than part of a cohesive team and, therefore, facilitating their temporary disengagement from the team. Moreover, the fact that this appears to affect casual gamers more than tournament participants might be explained with the stronger team unity required in Esports and the higher stakes competitive gaming involves, demanding more concentration and dedication to the game (Himmelstein et al., 2017).

Conversely, within the streaming context, the presence of "Internal Monologue" might indicate a more leisurely, fun-oriented approach to the game, akin to the casual gamer's mindset, with a diminished focus on intense competition and stronger attention to entertainment and engagement of followers through continuous dialogue. The practice of

“thinking aloud,” as revealed by the analysis (see Section 3.2.3.3), is not just a means of self-reflection but also extends to viewer interactions, fostering a conversation that goes beyond the team and the game events. In linguistic terms, these sequences can be understood as “glosses” or “metapragmatic comments” (Lucy, 1993; Thomas, 1984), that are remarks about the pragmatic aspects of language and are used by the speaker to control, clarify or negotiate the meaning of their utterances in the context. In this sense, they are essential mechanisms for constructing and maintaining a shared intersubjectivity among participants in the interaction. The findings from my study can then be compared to Liu and Ran’s (2016) study on metapragmatic expressions in a Chinese TV program, which were observed to be used to guide and regulate the flow of conversation and manage interpersonal dynamics. In Warzone similar sequences may serve a similar function, as Esports players who stream can provide meta-level commentary on their actions and thoughts through such comments, potentially creating a more immersive and connected experience for their audience.

This observation also aligns with Hamilton et al.’s findings (2014), who noted the importance of conversation in creating a sociable and enjoyable streaming atmosphere, and with Sjöblom & Hamari (2017), who emphasized the role of such interactions in developing a unique bond between the streamer and their audience. Therefore, this type of communication can serve as a tool for a deeper interaction with viewers, at the expense of the strategic coordination with the team, by providing a narrative or commenting on their gameplay in a way that is inclusive and entertaining and can create a sense of intimacy.

### **3.2 Leadership and Decision-Making within Esports and Casual Teams**

During gameplay, different leadership dynamics are observed, with notable variations in leadership styles between casual and Esports players.

Casual teams typically lack a formal structure and fixed hierarchy (see Section 1.4), fostering a climate where leadership “naturally” emerges and it is dynamically attributed to players, depending on several factors. Qualitative observations seem to suggest that leadership allocation is predominantly based on performance metrics such as kill/death ratios and time spent playing (see Section 1.4.2), reflecting a broader inclination towards

an assignment of roles that is data-driven and emphasizes quantifiable achievements. However, focusing on quantitative data can introduce several issues. First, a quantified approach to leadership includes the possibility of manipulating these statistics through technical manipulations like the use of VPNs, which can artificially inflate these indicators (see Section 2.1.2). Secondly, this quantitative focus often overlooks less quantifiable yet crucial attributes, like cooperation and altruism, which play significant roles in teamwork and game dynamics. In fact, Teng et al. (2022) demonstrated that players frequently engage not only in strategic and offensive actions but also in defensive engagements, such as protecting and healing teammates, which cultivate a sense of “relatedness” within the game (understood as the fulfillment of the need for closeness and being cared for); instead, Austin (2020) observed that, while support roles are essential within team-based video games, it is often women who are pushed into these roles, due to prevailing gender stereotypes.

Moreover, the analysis of team communications (see Section 3.1.1), shows a blend of decision-making styles which combines democratic discussion with direct commands, as seen through the frequent use of “Opinion/Analysis/Evaluation” and “Suggestion” alongside “Commands” communication patterns during gameplay. This variety underscores a hybrid leadership model combining more democratic (“Opinion/Analysis/Evaluation” and “Suggestion” patterns) or authoritative (“Commands”) styles. In contrast, Esports players exhibit more formal communication structures issuing more “Commands” than casuals (see Section 3.2.1), a possible reflection of the higher organizational levels within these teams. This difference may also stem from the higher skill level and confidence of Esports players, enabling them to provide clear directives: as a matter of fact, as reported by Hamilton et al. (2014), more skilled players often exhibit more decisive communication traits.

Finally, another key dynamic observed in Warzone teams concerns the way players address potential frictions within the game. Results show that players tend to avoid conflicts, therefore opting to leave and rejoin different gaming teams rather than address issues directly (see Section 1.3.2), even when these players belong to the same Regiment: this trend mirrors similar behaviors enacted in professional settings, where avoiding confrontation can preserve relationships and maintain cohesion (Tjosvold and Sun, 2002;

Zhu et al., 2015). In the gaming context, avoiding conflict may preserve the playful spirit of the activity, with players avoiding conflict to soften the competitive drive which demands seriousness and a goal-oriented approach, to maintain with the game's recreational nature, which calls for a more relaxed approach rather than performance-oriented behaviors. Players must navigate a fine line between tolerating mistakes, to preserve fun and social cohesion, and maintaining a level of performance-oriented teamwork, which instead demands individual accountability. However, the approach of ignoring conflicts may only temporarily hide the frictions among players, eventually leading to disruptions in team harmony and complicating team formation. This underscores the need for conflict management skills even in casual gaming settings, emphasizing the inevitability of conflicts and the importance of addressing them effectively to maintain group equilibrium.

### **3.3 Emotions in Casual and Esports Play**

In Warzone, socio-emotional interaction is a pivotal category of communication patterns observed during gameplay, incorporating both the expression of emotions and the engagement in conversations that go beyond mere game strategy. The prevalence of expressions such as “Anger/Frustration” communication patterns (see Section 3.2.1) underscores the game's high competitiveness and potential for inducing stress, leading to strong emotional reactions. However, further analysis into the players' expertise levels and gameplay contexts reveals a lower frequency of these negative emotions among Esports players compared to casual gamers.

The observation of more instances of negative emotions among casual players is in line with studies examining the psychological impacts of video games, that do not only bring positive effects but may also be stressful and frustrating (e.g., Vallãdao et al., 2020; Gray et al., 2018). At the same time, the lower expression of anger and frustration among Esports players is not surprising. As a matter of fact, despite the high pressure and stress associated with competitive play, which could amplify negative emotional responses, more experienced players tend to convey more positive and fewer negative socioemotional messages (Peña & Hancock, 2006), a fact that may be attributed to the advanced emotional regulation skills developed by Esports players, that are vital for maintaining concentration under pressure. Athletes, both in traditional sports and Esports, engage in

regulation strategies such as avoidance coping and self-censorship to regulate their emotions and sustain performance levels (Kou & Gui, 2020). Given that anger can adversely affect team dynamics and performance (Campo et al., 2012), its reduction could be crucial for the success of top-level players.

This scenario could be interpreted as the result of a “natural selection mechanism” operating within the gaming community, where individuals who excel at managing negative emotions are more likely to be attracted to high-pressure environments, be included into teams, and succeed in competitions. Moreover, the awareness of being in the public eye might encourage players to self-censor and moderate their expressions, an aspect that merits further investigation. It is possible that players tend to avoid individuals who express negative emotions to avoid people who exhibit “toxic” traits, to preserve their serenity and their space.

Another crucial insight arises when examining the context of gameplay, particularly in streaming situations where players share their live sessions. Here, a distinctive communication style is observed, characterized by a stronger focus on socio-emotional expressions (see Section 3.2.3), including both positive (such as “Joy/Laugh” and “Humor/Taunting”) and negative emotions (“Anger/Frustration”), alongside more casual conversation (“Non-Work/Social”). This style contrasts with the strategic and efficient style prioritized by competitive tournament players, while presenting similarities to casual gaming, where emotional expression is way more pronounced. In light of this, it is possible that streamers leverage emotions to enhance social interaction and increase their visibility, as research and anecdotal recounts on the reason for engaging in streaming claim (Perez, 2019; Zimmer & Scheibe, 2019).

Data drawn from this research supports the idea that streaming requires a sort of emotional or *affective labor* (Woodcock & Johnson, 2019) where streamers consciously shape their behavior and manage their emotions to draw and maintain an audience. This effort not only helps attract viewers but also retains them, with some followers offering financial support through subscriptions (Walker, 2014). Therefore, emotions in streaming serve not just to entertain but also to build a connection with the audience, ultimately contributing to the streamer’s income.

### **3.4 Main Takeaways**

In Warzone, players put particular emphasis on situational awareness and information sharing, particularly Esports players that are renowned for their precise and efficient communicative practices. Leadership within these virtual teams is inherently dynamic and is determined by individual performance metrics. This fluid and adaptable approach to leadership reveals a general aversion to conflict, highlighting a collective commitment to team harmony and the preference to avoid direct confrontations to preserve unity.

The range of emotional expression in this setting varies widely; casual players often exhibit more overt displays of frustration and anger, in sharp contrast to the controlled emotional expressions of Esports players. However, this restraint is often diminished during live streaming sessions, where a wider array of emotions is shown, likely intended to enhance engagement with the audience.

## **4. Third Theme. The Diffusion of Antisocial Behaviors: Cheating**

### **4.1 Cheating as a Contextual Phenomenon**

One of the central findings of this research is the identification of cheating as a complex and highly situational phenomenon within the Warzone community. The study reveals that the perception of cheating depends not only on the players' gaming proficiency but also on their socio-material circumstances and the specific role a cheater plays within the game's social hierarchy. This diversity among Warzone players arises from the varying levels of time and money they invest in the game: those dedicating considerable time develop skills crucial for accurately spotting cheaters; in contrast, less experienced players often depend on subjective feelings, leading to baseless suspicions and skewed perceptions of cheating (see Section 2.2.2).

The study also points out the role of technological equipment in creating a socio-economic divide among players (see Section 2.1.2), which challenges the notion of "fair competition", as observed in games like World of Warcraft (Rapp, 2018b, 2020), where players' progress is perceived as more meritocratic. Consequently, in Warzone, the purchase of high-end

gaming hardware is viewed by some as a form of cheating, whereas others, particularly those with greater financial resources, see it as a legitimate advantage.

Furthermore, players' narratives about cheating are closely tied to the context in which this phenomenon occurs. Cheating that is associated with professional gaming or social media influence is seen as a serious breach of trust because in this case the use of game hacks leads to real-world benefits to players; instead, when cheating is performed by casual players, who do not gain any material advantages from winning the game, it is often perceived differently. In the most negative cases, cheating is seen as a threat to the gaming experience of players, ruining other players' enjoyment. In a few cases, however, cheating can be lived as a "tolerable offense": this is the case of players who demonstrate sufficient gaming competence and are not complete "strangers" to the game community (see Section 2.1.1).

This study, therefore, offers a nuanced understanding of cheating as a contextual phenomenon, supporting and expanding upon previous research which noted the lack of a uniform definition of unfair play (Yan & Choi, 2002; Consalvo, 2007). This situational understanding of cheating aligns with the broader literature on cheating within organizations and workgroups, where cheating can manifest as financial fraud, intellectual property theft, or manipulation of performance metrics. Studies in the WOP field emphasize the role of organizational culture, individual motivations, and the socio-economic environment in shaping cheating behaviors. For instance, Greenberg (2002) adopted an interactionist approach, positing that theft behavior in organizations is not only influenced by individual characteristics but also situational factors, such as the presence of ethics programs to create a culture discouraging thefts. Similarly, in a review summarizing research on behavioral ethics within organizational settings, Treviño et al. (2006) claim that unethical behaviors are influenced not only by moral reasoning and judgment but also by the perceived reward system of the organization, the ethical climate, risks, and contextual norms, emphasizing how both formal and informal systems can foster or limit ethical behavior. Reinforcing this perspective, Gill et al. (2013) claimed that the uncertainty inherent in bonus-based compensation schemes could foster a perception of unfairness, which in turn increases dishonest behavior, while Mitchell et al. (2018) underscored the demands for high performance in eliciting cheating behavior.

It is interesting to notice the parallels between cheating in an online gaming context such as Warzone and in professional organizations. In both cases, the characteristics of the environment and the perception of fairness are critical factors in fostering unethical behaviors. Complementing previous research, this study goes further by linking varied perceptions of cheating to players' socio-material conditions and the distinct roles within the gaming world, aspects previously overlooked. Additionally, it highlights the varying strategies employed by players of different competencies to identify and combat cheating, an area not extensively covered in prior studies. These results encourage the development of fair and transparent systems, rather than adopting a perspective that solely values personal and moral characteristics of the individual.

## **4.2 Uncertainty: Cheating as a Black Box**

This study reveals that cheating in Warzone is surrounded by uncertainty, primarily due to players' limited understanding of cheat functionalities and difficulties in recognizing cheaters during gameplay. The near impossibility to recognize cheats stems largely from their technological sophistication, which are deliberately designed to be as unnoticeable as possible. Consequently, cheating in Warzone can be seen as a "black box" - a concept I employ to describe a phenomenon that is vaguely understood and challenging to identify, yet has real and tangible effects on the entire player base.

### **4.2.1 Stress and Emotion Regulation: Emotional Consequences of Uncertainty**

The technological complexity of cheats contributes significantly to the uncertainty that clouds playing Warzone. While more experienced players may better navigate the topic, being able to identify the presence of one or more cheaters within the lobby and act accordingly, most individuals lack the requisite knowledge to identify them. This is especially the case of inexperienced casual players who are then drawn to an emotional response of frustration and consequent use of "hackusations" as a coping mechanism to counteract it (see Section 2.3.1).

The frustration experienced by players can be linked to the competitive nature of Battle Royale games, which previous studies have shown to be potential stress triggers (Ohno, 2021; Kaye & Bryce, 2012). When casual players believe their in-game efforts are futile due

to illegitimate defeat by cheaters, it often results in anger and aggressive behavior (Baron & Richardson, 1994; Folger & Baron, 1996). Streamers and competitive players, who invest time in the game for economic returns, are similarly affected by the cheating problem: for these players, cheating not only undermines the integrity of the competition but also jeopardizes their potential earnings and reputation on gaming platforms, which depend on their superior skills.

Conversely, accusing others of cheating can be a psychological strategy for players to manage the disappointment of a loss. In Warzone, players often engage in cognitive reappraisals, reframing a defeat as a consequence of the opponent's unfair play to lessen the negative emotions associated with the loss (Gross, 1998). This aligns with findings that attribute blame to mitigate the emotional impact of perceived injustice (Walker, 2006).

While these blame assignments can have a cathartic effect, they also carry potential downsides. Given the inherent uncertainty in identifying cheaters, misplaced aggression may be directed towards innocent players, contributing to a cycle of reciprocal aggression, which can potentially escalate the overall aggression, suspicion, and toxicity within the gaming environment. This study thus highlights the complex interplay between the technological aspects of cheating, the emotional responses they evoke, and the broader social dynamics within the Warzone community.

#### **4.2.2 Sense-Making: Navigating Uncertainty and Crafting Narratives**

In Warzone, the elusive nature of cheating technologies propels players into a continual process of interpretation, trying to discern if an opponent's victory stems from legitimate skill or illegitimate assistance. As cheats are challenging to detect, players who lack a deep understanding of cheating mechanics often rely on indirect sources for information, such as discussions with peers, social media, and game-focused channels (see Section 2.1.3).

This constant search for clarity amidst ambiguity parallels other complex scenarios, like crisis events, where people spread rumors to make sense of unfolding crisis situations (Boldi et al., 2022), which are difficult to understand. Rumors, a mechanism to interpret unclear events (Shibutani, 1966), become a prevalent form of communication among Warzone players, contributing to the perpetuation and amplification of uncertain information.

This sense-making process often leads players to a heightened suspicion that cheating is rampant and widespread, affecting every aspect of the game (see Section 2.3.2). For instance, it may instill doubts about the integrity of both opponents but also team members, the game’s publishers, and game developers. This climate of suspicion fosters beliefs whose nature resembles that of “conspiracy theories”, that are allegations of misconduct by powerful entities (van Prooijen & Vries, 2016). As a matter of fact, these theories tend to surface in complex, stressful situations, like those experienced in Warzone, and are often fueled by a sense of powerlessness (Hofstadter, 1965), which is akin to the frustration of feeling constantly outmatched by cheaters.

In this context, “conspiracy theories” elaborated by players may serve not just as expressions of distrust towards the game company but as tools to simplify a complex issue (Zonis & Joseph, 1994), offering players a straightforward explanation for a multifaceted and apparently unsolvable problem. This study reveals how the uncertainty surrounding cheating in Warzone not only impacts gameplay but also shapes the narratives and interpretations within the gaming community.

### **4.3 Surveillance Dynamics: The Intersection of Uncertainty and Technology**

In the uncertain terrain of Warzone’s gaming environment, players often engage in “investigative” behaviors (see Section 2.3.1). The study’s results show that such behaviors manifest in Warzone as a form of *social surveillance*, a decentralized and mutual control activity (Marwick, 2012). This surveillance varies in formality and structure, depending on the player’s role within the community: for some streamers, it evolves into a quasi-professional endeavor, aimed at fighting cheating and disseminating knowledge to assist others in identifying unfair practices.

Similar investigative behaviors are reminiscent of those seen during crisis or catastrophic events, where scrutinizing others’ intentions becomes a means to make sense of unexpected scenarios as they unfold (Heverin & Zach, 2012). In organizational settings, similar dynamics can transform into “organizational paranoia” (Kramer, 2001). This phenomenon is often triggered by the power dynamics inherent in hierarchical structures. According to Kramer (2001), employees—especially those who belong to a minority or are

newcomers—may feel uncertain about their standing and position within the organization, leading to a heightened sense of being observed and evaluated. This increased vigilance and ruminative thinking can result in exaggerated perceptions of distrust, fostering gossip and the spread of negative information, which in turn amplifies the climate of suspicion. Surveillance and monitoring technologies play a significant role in triggering these reactions in both serious and gaming contexts. In Warzone, players are constantly monitored, and reporting mechanisms foster a toxic environment where players feel under continuous scrutiny and risk false accusations of cheating (“hackusations”) (see Section 2.3.1). Similarly, in workplaces, employees are monitored through performance tracking systems, surveillance cameras, or digital monitoring tools (Ball, 2010). The information collected through these technologies can affect employees’ behavior, intrude into their private lives, and undermine trust within the organization.

The parallels between serious and gaming contexts are noticeable. Both environments use technological designs to facilitate surveillance: Warzone employs first-person gameplay observation, norm-violation reporting mechanisms, and public performance analytics to mitigate cheating through community-driven monitoring: the constant monitoring and reporting can foster a toxic environment, as in Warzone where players feel under continuous scrutiny and face the risk of false accusations of cheating (*hackusations*) (See Section 2.3.1). Similarly, organizations use surveillance technologies to monitor employee performance and ensure compliance with policies.

The feasibility of such social control in Warzone is underpinned by its technological design. In fact, the game’s architecture facilitates surveillance through features like first-person observation of gameplay, norm-violation reporting mechanisms, and public performance analytics. These features, as highlighted in the findings, can be viewed as the game developer’s strategy to mitigate cheating through community-driven monitoring, acknowledging the limitations of top-down solutions. As a matter of fact, previous research (Jonnalagadda et al., 2021) reveals that manual inspection of gameplay and voluntary player reporting currently stand as the most effective measures against cheating. However, this approach can also foster a pervasive surveillance culture and a state of “paranoia,” where players face the risk of unjust hackusations and the fear of unwarranted bans.

This culture of surveillance is not only a byproduct of the game's design but also emerges from the players' practices in managing such uncertainty: these include efforts to interpret others' actions, sourcing information from various (and often unreliable) channels and dealing with emotions stemming from potential unfair losses. In light of this, I suggest that any technological solution to address cheating in Warzone must consider these player behaviors. While bottom-up solutions can complement the limitations of algorithms, it is also important to acknowledge the limitations in players' knowledge for accurate reporting and the potential bias in their judgments. As results show, players' behaviors are heavily influenced by emotional responses and the collective perception of cheating within the gaming community.

#### **4.4 Main Takeaways**

The study revealed that the different players' perceptions of cheating are intricately linked to players' expertise in the gaming, their socio-material conditions, and the specific roles of individuals engaging in unfair practices. Cheating emerges as a "black box," marked by significant uncertainty and indeterminateness, with knowledge about it being fragmented and often based on rumors or subjective opinions. This uncertainty leads to varying responses, from casual players who are easily influenced by word-of-mouth, to more skilled players who apply more discerning criteria in identifying cheaters.

The competitive nature of Warzone exacerbates mutual accusations of cheating (or "hackusations"), which negatively impacts both casual and professional players. The game's design, which facilitates reciprocal observation and reporting, further intensifies a climate of paranoia and surveillance, potentially exacerbating the toxicity of the gaming environment.

**CHAPTER 6. CONCLUSION AND IMPLICATIONS FOR RESEARCH**

## 1. General Summary

This doctoral thesis has explored the domain of video games with an interdisciplinary approach across the fields of Work and Organizational Psychology (WOP), Human-Computer Interaction (HCI) and Game Studies, whose theoretical insights were pivotal to the conceptualization of this research and the interpretations of the findings. While the study aims to contribute to the WOP discipline, the HCI perspective contributed with a deep understanding of the technological interactions between humans and video games, while the discipline of Game Studies provided a humanistic perspective on the gaming experience. This interdisciplinary approach allows for a more holistic understanding of video games, not only as technological artifacts but also as complex, socially, and psychologically rich phenomena.

The motivation for this study arises from the significant role of “play” as a fundamental element of human experience, profoundly affecting individuals, a concept thoroughly explored in Chapter 1. Employing a mixed-methods case study during the COVID-19 health crisis, the research brings to light the crucial, yet often overlooked, importance of contextual factors in the interactions between players and gaming technologies. This approach challenges the conventional view of the gamer as an isolated individual, disconnected from the broader world. Instead, it posits gamers as deeply intertwined with global events and societal dynamics, a perspective that overturns traditional perceptions and establishes a deeper connection between individual experiences and the wider world.

Recent societal changes and transformations within the video game environment and the professionalization of play have led to the widespread popularity of online multiplayer gaming, its intersection with social media, and the emergence of a new category of players: E-sports players – who can either be competitive players or streamers. Chapter 2 explored these changes, culminating in a series of research questions that establish the groundwork for an ethnography. This longitudinal, qualitative study forms the core of the doctoral work, providing a detailed examination of these evolving gaming dynamics. On the basis of the literature explored in Chapter 2, I hypothesized that the evolution of the video game industry, marked by the widespread adoption of multiplayer games featuring complex environments, could significantly impact player experiences. I posited that casual and

Esports players would have distinct gaming experiences, revealing varied practices and social as well as organizational dynamics.

After having presented the methodology adopted to conduct the study, in Chapter 3, I presented the results in Chapter 4. I discovered qualitative differences between casual and Esports players (see Section 1), and clarified that competitive players and streamers operate within distinct contexts, as revealed by their different communication styles during gaming sessions (see Section 3 of the chapter). Despite the clear distinctions revealed among casual and Esports players, these “categories” of players are not isolated; instead, they coexist and exert mutual influence within the game arena. This interplay becomes especially pronounced in the realm of “dark” organizational behaviors, such as cheating (see Chapter 4, Section 2). The perceptions and evaluations of such practices are deeply entwined with the involvement of Esports players and streamers, who play a pivotal role in shaping attitudes towards these behaviors and in regulating them within gaming communities.

In this final and conclusive chapter, I take a further step by discussing the broader implications of these results, extending beyond the confines of the research itself to hold significant meaning for the discipline of Work and Organizational Psychology. Then, I provide final ethical considerations on the challenge of conducting field work in the gaming realm.

## **2. Study Limitations**

In conducting this study, I had to make several decisions to balance practical feasibility, available resources, methodological rigor, and the opportunity to make a significant contribution to existing literature. Initially, I faced the practical challenge posed by the pandemic and the enforced quarantine in Italy. While it might appear that conducting a “digital” ethnography was unaffected by the lack of social contacts, and that being online might even be advantageous, this was only partly true.

Starting my doctoral journey just a few months before the pandemic outbreak, I found myself isolated both from the academic community and the gamers of the community I

intended to study, which limited my ability to learn from more experienced colleagues at conferences to better set up the study and to connect with players in the gaming community through the participation to collective events such as gaming conventions and LAN tournaments. Moreover, as I was experiencing the consequences of the pandemic on myself, I realized that the pandemic-induced behaviors and dynamics within the game could be atypical: I then was concerned about the representativeness of my observations. Was I observing normal gaming interactions, or were these behaviors uniquely shaped by the global crisis? Given the impossibility to answer these questions, I leverage this situation as an opportunity to critically study the online world and the player's relationship with it: the impact of the pandemic on players became an integral part of my research, rather than a potential obstacle. However, the issue of generalizability remained challenging to overcome fully.

The main limitation of this study consists in the difficulty of integrating deeply into the Esports community to gather direct data rather than relying solely on observations and analysis of in-game communication. While the widespread participation in the online community facilitated contact with casual players, who were contacted through social media networks and dedicated online channels, accessing the more closed, smaller Esports domain required building direct social relationships with the players. Entry into this circle necessitated either being a strong competitive player, a content creator, or someone involved in managing player communities or organizing events to get noticed by this category of players: however, all these roles require specific game competencies and time to develop which were beyond my role as a researcher. Despite attempts to reach out to professional Esports circles, for instance through e-mails or social media such as Instagram and Discord, my “outsider” status likely led to my inquiries being overlooked.

Moreover, choosing to focus on a single gaming community, that of *Call of Duty: Warzone*, rather than multiple communities or game genres, was a practical decision influenced by the complexity of understanding each game's unique dynamics and managing entry into these communities. While this focus could limit the geographical and cultural scope of the findings, the focused approach on a single gaming community is one of the strengths of this study, as this targeted focus aligns with the ethnographic methodology and has enabled the production of rich, situated results. The approach fostered a nuanced

understanding of the social dynamics and interactions within it, which would have been less achievable with a broader, more diffuse focus across multiple games or communities. Moreover, the online nature of the game did, however, bring together people from across Italy, offering some diversity within the sample.

Moreover, choosing to focus on a single gaming community, that of *Call of Duty: Warzone*, rather than multiple communities or game genres, was a practical decision influenced by the complexity of understanding each game's unique dynamics and managing entry into these communities. While this focus on Warzone and the Italian gaming community provided depth, it also limited the geographical and cultural scope of the findings. The online nature of the game did, however, bring together people from across Italy, offering some diversity within the sample.

Other limitations of the study likely come from personal bias. As a researcher with a background in psychology and as a casual gamer myself, my interpretations of social interactions within Warzone may be influenced by my own gaming experiences, as a female player, and academic perspective. This engagement with the game might lead to subjective interpretations of data, potentially skewing the analysis toward my experiential understanding.

Finally, other sources of limitation come from the design of the game itself and are inherent to making research on video games, which are characterized by frequent changes and updates. The dynamic nature of Warzone, akin to that of any other game, implies that the findings are closely tied to the specific version of the game studied. For instance, during the course of the ethnography, despite conducting the observations within a limited timeframe, the game itself underwent significant changes: for instance, the map that players were accustomed to (*Verdansk*) was altered, some game modes were integrated while others were removed (*Rebirth Island*). These changes risk making the research setting more precarious and lead to decisions such as limiting the data collection window, which I chose to do.

The aspect most influenced by time has been the rise of Esports and streaming, which have grown significantly and rapidly in recent years. This rapid evolution makes it challenging to keep pace with the Esports phenomenon, considering the slower nature of research

processes compared to the quick evolution of Esports practices. Staying updated with the rapid developments of Esports has been difficult, thereby potentially limiting the comprehensiveness of the research findings in capturing the current state of these rapidly evolving sectors. Therefore, considering these temporal limitations, the conclusions might become less relevant as the game evolves, although it is true that the basic mechanics of the game generally remain the same.

Acknowledging these limitations and recognizing that they are closely intertwined with the nature of conducting research in technologically mediated environments like online games is crucial for an accurate interpretation of this research's findings. Despite these challenges, this thesis hopes to make substantial contributions to the field: as discussed in the next section, these findings can be specifically useful for the discipline of Work and Organizational Psychology.

### **3. Implications for Work and Organizational Psychology**

The detailed analysis of Warzone's community engagement illustrates the formation of what can be considered organizations in the form of Regiments – which involve casual players, and Esports organizations, ranging from amateur and professional levels - which involve Esports players. As outlined in the Results (Chapter 5), video games offer more than mere entertainment and mental relaxation, as players are required to engage in rapid decision-making, collaborate, manage leadership roles, and resolve conflicts effectively. These gaming environments act as “social laboratories” where individuals confront serious dynamics that might be considered prototypical of workplace experiences or other structured contexts demanding organization and seriousness.

As the study revealed, the complexity which characterizes players' interaction does not only concern the realm of professional gaming but extends into the casual gaming sphere. However, this category of players faces the challenge of navigating environments where the distinction between “play”, intended as the engagement in activities for enjoyment and leisure, and “work”, which refers to structured, goal-oriented tasks, becomes increasingly indistinct (for a detailed examination of these conceptual dimension, please

refer to Chapter 1). As discussed in Chapter 6, one of the notable effects of this phenomenon is casual players finding themselves negotiating their approach to gaming activities: deciding on the overall approach to the game, determining the distribution of power and leadership among teammates, and striking a balance between strategic gameplay and maintaining an atmosphere that prioritizes fun and enjoyment. This may lead to vulnerabilities among casual gamers, who might lack the resources to address the challenges inherent in team play, such as resolving conflicts without disrupting group cohesion, managing power dynamics without a clear hierarchy, and dealing with their emotions.

Especially noteworthy is the Esports context, where a higher sophistication in communication patterns and emotional regulation among participants was observed, contrasting with the experiences of casual gamers. The Esports domain, which is often seen as the competitive side of gaming, reveals to be more than mere structured entertainment, serving as a vital space where young individuals not only pursue their passions but may also develop a suite of skills that are highly relevant in professional settings. This environment mirrors the challenges and complexities of professional settings, making it an invaluable laboratory for examining the development of professional competencies in a non-traditional context.

This scenario has significant implications for psychology and, specifically, for the study of organizations, highlighting how gamers encounter and navigate complexities analogous to those found in organizational settings which lack traditional structure, such as small and virtual enterprises. These virtual gaming environments offer valuable insights, including how individuals set expectations, learn operational rules, and apply these experiences outside the gaming context. Recognizing and validating these gaming experiences and their relevance beyond the specific context of gaming would open new strands of research.

More specifically, the dynamics of informal and formal power and conflict management observed in Warzone, which affects the team and the gaming experience, can be applied to professional teams operating in digital and unstructured environments. Tost (2015) focused on social power in organizational contexts - which involves controlling resources that other value, thus influencing their behavior. He distinguished *structural power*, which

manifests in formal roles and hierarchies, from *psychological power* which operates independently from such structure. This distinction is particularly pertinent in contexts where traditional structures are absent or fluid - such as in Warzone gaming teams, where psychological power can play a dominant role over structural power. In particular, research could investigate the role of metrics in setting power within professional teams, especially in environments regulated by performance indicators such as sales teams. While Warzone players are observed to refer to performance metrics such as the kill-death ratios (KD) metrics to establish credibility and influence within the team, similarly, in sales environments, metrics like sales figures and quotas can determine horizontal and vertical power dynamics and influence decision-making processes.

Moreover, the leadership styles observed in Warzone, which range from fluid to democratic, depending on how players negotiate the meaning of their activities, highlight the importance of contextualizing leadership within the framework of work, power, relationships, and job significance. In Warzone, leadership is often situational, with players exerting a leadership style also depending on their shared understanding of the gaming situation. Based upon these observations, WOP scholars can explore how individuals' leadership styles vary depending on factors such as the meaning attributed to work and the level of commitment and engagement toward the organization. Individuals who view their work as highly meaningful and are deeply committed to their organization may prefer to inspire and motivate their team, adopting a transformational leadership approach (Bass & Riggio, 2006), rather than solely focusing on efficiency and meeting specific goals. Different leadership styles can also be observed across different generations. As shown by recent studies, younger generations often have different perspectives on work and its significance in their lives (Twenge, 2010). Such generational differences can influence leadership styles, with younger leaders potentially adopting more collaborative and inclusive approaches compared to their older counterparts or crafting completely new leadership styles.

Finally, communication is another critical area where insights from Warzone can be applied to professional settings. The study's findings on communication strategies among Warzone players, who often rely solely on verbal communication while being geographically dispersed, can inform best practices for workplace communication.

Ensuring that team members remain connected and focused, despite physical separation, can prevent errors and enhance collaboration in remote or virtual teams. A critical insight from the study results relates to the risk of team members becoming disconnected from the “context” during online interactions, such as conference calls: the experience of participating in such calls can often be diminished and frustrating, potentially leading to disengagement. One strategy to counter this is to design and implement structured communication protocols and meeting formats which encounter the needs of employees: for instance, having a clear agenda, incorporating regular breaks and interactive sessions, and establishing a good frequency with shorter meetings. Another possible approach is implementing gamification elements within conference software, thus incorporating game-like elements into non-game contexts to increase engagement and motivation (Deterding et al., 2011). For instance, integrating features such as real-time polls, quizzes, and interactive leaderboards during meetings can keep participants engaged and active. These elements can help create a more dynamic and participatory environment, encouraging continuous attention and involvement.

Another direction for future research could explore the mutual influence between gaming environments and formal organizational contexts, particularly the transferability of skills and norms across these domains, to understand how gaming habits might translate into traditional work settings and vice versa. Future research avenues could also investigate the development of work attitudes among esports players, examining how their values, aspirations, and work approaches are influenced by their gaming experiences. As digital and remote work becomes increasingly prevalent, the lessons learned from Esports regarding team dynamics, leadership, and performance under pressure can inform broader organizational practices and strategies.

In conclusion, these findings advocate for Psychology to expand its scope to consider non-traditional environments like multiplayer online games as legitimate spaces for investigating topics that are relevant for the discipline. This broader perspective aims to equip individuals with the competencies necessary to navigate contemporary and future work environments.

## 4. Final Considerations on Conducting Research in Virtual Environments

On a final note, this research journey into the gaming worlds offers a broader reflection on the nuances of qualitative research within this domain, particularly influenced by my experiences as a female early-career researcher. This exploration has underscored the unique blend of challenges and advantages that have shaped this journey, providing insights into the intricate dynamics of conducting research in such virtual worlds.

Initially, my entry into the field was met with hesitation. My first study into the gaming universe, aimed at understanding the use of video games during the pandemic, required engaging with gaming forums for recruitment. While recruiting participants, I was exposed to harassment from a player who heavily criticized my study and accused me of unethical intentions, including data theft - a baseless allegation that nonetheless impacted my confidence and could potentially influence others' perceptions within the forum. This unsettling experience, occurring at the outset of my fieldwork, was a harsh introduction to the challenges of navigating online communities as a researcher.

Despite these initial obstacles, the journey continued, and I acquired a growing familiarity with the virtual gaming landscape. Given the constraints imposed by the COVID-19 pandemic, my research was confined to virtual interactions, requiring me to immerse myself fully in online gaming communities. Starting from scratch, without prior connections developed within this community and without the possibility to build such connections in "real life," was a challenge. However, through persistence, I eventually found a gaming group that not only aligned with my research criteria but also provided a sense of safety and openness, crucial for my venture into this unfamiliar territory.

This process of finding and integrating into a suitable group revealed the importance of selecting participants who could contribute positively to the research while ensuring a comfortable and respectful environment. The initial stages within this chosen Regiment were marked by a period of relative peace, facilitated by my novelty as a young woman in the community. This acceptance allowed me to conduct my research with relative ease, gradually expanding my network within the broader gaming and Esports community of

Warzone. However, even within this supportive environment, my role as a female researcher sometimes introduced challenges. For instance, being assigned administrative tasks due to my organizational skills occasionally fostered discontent among some members, leading to their departure from the Regiment. Furthermore, being the only female administrator in a predominantly male group occasionally placed me in uncomfortable situations, especially when the group's camaraderie shifted into "inappropriate territories."

Reflecting on these experiences, I recognize the significant impact they have had on shaping my approach to the qualitative research I conducted. The challenges encountered underscore the complexities of conducting research in virtual worlds, where personal interactions are mediated through digital platforms. These experiences have also highlighted the necessity for ethical considerations and support mechanisms tailored to the needs of early-career researchers, particularly those navigating online communities. From these reflections, my commitment as a researcher has evolved to focus on the ethical dimensions of qualitative research: specifically, I aim to provide support and guidance to fellow researchers, advocating for practices that protect both researchers and participants. This includes fostering a deeper understanding of the unique challenges posed by virtual research environments and developing strategies to navigate these challenges effectively.

In summary, I hope that this study contributes not only to the academic discourse on video games but also offers personal insights into the nature of conducting qualitative research in digital spaces, offering valuable lessons for future research endeavors in this and similar domains.

## REFERENCES

- Aarseth, E. (2004). Genre Trouble. Narrativism and the art of simulation. In *First Person: New Media as Story, Performance and Game*, ed. N. Wardrip-Fruin, P. Harrigan, Cambridge.
- Abalakina-Paap, M., Stephan, W., Craig, T., & Gregory, W. L. (1999). Beliefs in conspiracies. *Political Psychology*, 20, 637–647. <https://doi.org/10.1111/0162-895X.00160>
- American Psychological Association. (2020). *APA resolution on violent video games: February 2020 revision to the 2015 resolution*.
- Amit, V. & Rapport, N. (2002) *The Trouble with Community: Anthropological Reflections on Movement, Identity and Collectivity*. In Thomas H. Eriksen, Katy Gardner, and Jon P. Mitchell, eds., *Anthropology, Culture and Society* series. London: Pluto Press, distributed in the U.S. by Stylus Publishing, 2002. 186 pp.
- Anti-Defamation League (ADL) (2022). *Hate Is No Game: Hate and Harassment in Online Games 2022*. Retrieved from: <https://www.adl.org/resources/report/hate-no-game-hate-and-harassment-online-games-2022>, Accessed 1 February 2023.
- Arjoranta, J. (2019). How to define games and why we need to. *The Computer Games Journal*, 8(3-4), 109-120. <https://doi.org/10.1007/s40869-019-00080-6>
- Association of Internet Researchers (AoIR). (2012). *Ethical Decision Making and Internet Research Ethics*. Original document located at <http://aoir.org/ethics/>
- Austin, J. (2020). “I suppose I’ll be patching you up, as usual”: Women’s roles and normative femininity in a team-based video game. *New Media & Society*, 24(5), 1116-1132. <https://doi.org/10.1177/1461444820972396>
- Australian Government, National Health and Medical Research Council (Australian NHMRC). (2007). *Australian code for the responsible conduct of research revision of the Joint NHMRC/AVCC statement and guidelines on research practice*. Australian Government, ISBN print 1864964324.

Baldauf-Quilliatre, H., and Colón de Carvajal, I. (2020) Encouragement in Videogame Interactions. *Social Interaction. Video-Based Studies of Human Sociality*, Vol. 2 (2). <https://doi.org/10.7146/si.v2i2.118041>.

Ball, K. (2010). Workplace surveillance: An overview. *Labor History*, 51(1), 87-106. <https://doi.org/10.1080/00236561003654776>

Ballou, N., Deterding, S., Iacovides, I., & Helsby, L. (2022). Do people use games to compensate for psychological needs during crises? A mixed-methods study of gaming during COVID-19 lockdowns. In *CHI Conference on Human Factors in Computing Systems* (pp. 1-15). ACM. <https://doi.org/10.1145/3491102.3501858>

Banks, J., & Cole, J. G. (2016). Diversion drives and superlative soldiers: gaming as coping practice among military personnel and veterans. *Game Studies*, 16(2).

Bardzell, J., Nichols, J., Pace, T., & Bardzell, S. (2012). Come meet me at Ulduar: Progression raiding in world of warcraft. In *Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work* (pp. 603-612). <https://doi.org/10.1145/2145204.2145296>

Baron, R. A., & Richardson, D. R. (1994). *Human Aggression* (2nd ed.). New York: Plenum Press.

Barr, M., & Copeland-Stewart, A. (2022). Playing video games during the COVID-19 pandemic and effects on players' well-being. *Games and Culture*, 17(1), 122-139. <https://doi.org/10.1177/15554120211017036>

Barr, P., Noble, J., & Biddle, R. (2007). Video game values: Human-computer interaction and games. *Interacting with Computers*, 19(2), 180-195. <https://doi.org/10.1016/j.intcom.2006.08.008>

Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD research*, 1(1), 19.

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Psychology press. <https://doi.org/10.4324/9781410617095>

Bateson, G. (1972). A theory of play and fantasy. In *Steps to an ecology of mind* (pp. 177-193). New York: Ballantine Books. (Original work published 1955)

Bateson, G. (1978). Theoretical contributions to the study of play. In M. A. Salter (Ed.), *Play: Anthropological perspectives* (pp. 7-16). West Point, NY: Leisure Press.

Behnke, M., Kosakowski, M., & Kaczmarek, L. D. (2020). Social challenge and threat predict performance and cardiovascular responses during competitive video gaming. *Psychology of Sport and Exercise*, 46, 101584.

<https://doi.org/10.1016/j.psychsport.2019.101584>

Bekker, M. M., Valk, de, L. C. T., & Eggen, J. H. (2014). A toolkit for designing playful interactions: the four lenses of play. *Journal of Ambient Intelligence and Smart Environments*, 6(3), 263-276. <https://doi.org/10.3233/AIS-140259>

Bennerstedt, U., & Ivarsson, J. (2010). Knowing the way. Managing epistemic topologies in virtual game worlds. *Computer Supported Cooperative Work*, 19(2), 201–230.

<https://doi.org/10.1007/s10606-010-9109-8>

Beres, N. A., Klarkowski, M., & Mandryk, R. L. (2021). Under Pressure: Exploring Choke and Clutch in Competitive Video Games. *Proceedings of the ACM on Human-Computer Interaction*, 5(CHI PLAY), 1-22. <https://doi.org/10.1145/3474666>

Bergman, O., & Whittaker, S. (2018). The Cognitive Costs of Upgrades. *Interacting with Computers*, 30(1), 46–52. <https://doi.org/10.1093/iwc/iwx017>

Birk, M. V., Atkins, C., Bowey, J. T., & Mandryk, R. L. (2016a). Fostering intrinsic motivation through avatar identification in digital games. In *Proceedings of the 2016 CHI conference on human factors in computing systems* (pp. 2982-2995).

<https://doi.org/10.1145/2858036.2858062>

Birk, M. V., Buttlar, B., Bowey, J. T., Poeller, S., Thomson, S. C., Baumann, N., & Mandryk, R. L. (2016b). The effects of social exclusion on play experience and hostile cognitions in digital games. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (pp. 3007-3019). <https://doi.org/10.1145/2858036.2858061>

Blackburn, J., Kourtellis, N., Skvoretz, J., Ripeanu, M., & Iamnitchi, A. (2014). Cheating in online games: A social network perspective. *ACM Transactions on Internet Technology (TOIT)*, 13(3), 1-25. <https://doi.org/10.1145/2602570>

Blizzard Entertainment (2010). World of Warcraft® Subscriber Base Reaches 12 Million Worldwide. Retrieved from: <https://investor.activision.com/static-files/2ccd2aa0-ac18-4da2-9f3e-21fb55558944>

Blom, P. M., Bakkes, S., & Spronck, P. (2019). Towards multi-modal stress response modelling in competitive league of legends. In *2019 IEEE Conference on Games (CoG)* (pp. 1-4). IEEE. <https://doi.org/10.1109/CIG.2019.8848004>

Boellstorff, T. (2015). *Coming of age in Second Life: An anthropologist explores the virtually human*. Princeton University Press. <https://doi.org/10.2307/j.ctvc77h1s>

Boldi, A., & Rapp, A. (2023). “Is It Legit, To You?”. An Exploration of Players’ Perceptions of Cheating in a Multiplayer Video Game: Making Sense of Uncertainty. *International Journal of Human-Computer Interaction*, 1-21. <https://doi.org/10.1080/10447318.2023.2204276>

Boldi, A., Cho, S., Kou, Y., Rapp, A., & Birk, M. V. (2023). Methodological Challenges, Risks, and Ethical Implications in Game Research. In *Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (pp. 350-351). <https://doi.org/10.1145/3573382.3616026>

Boldi, A., & Rapp, A. (2023). Making sense of the pandemic: Multiple functions of commercial video games during one year and a half of COVID-19 crisis. *International Journal of Human-Computer Studies*, 180, 103141. <https://doi.org/10.1016/j.ijhcs.2023.103141>

Boldi, A., Rapp, A., & Tirassa, M. (2022). Playing during a crisis: The impact of commercial video games on the reconfiguration of people's life during the COVID-19 pandemic. *Human-Computer Interaction*, 1-42. <https://doi.org/10.1080/07370024.2022.2050725>

Boldi, A., Tirassa, M., & Rapp, A. (2024). Playing as the World Falls Apart: The Use of Video Games during the COVID-19 Crisis: the Case of Italy. In Siuda, P., Chmielewski, K., & Majewski, J. (2024). *Gaming and gamers in times of pandemic*, Bloomsbury Publishing.

Bopp, J. A., Mekler, E. D., & Opwis, K. (2016). Negative Emotion, Positive Experience? Emotionally Moving Moments in Digital Games. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*, pp. 2996–3006). Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/2858036.2858227>

Bourbousson, J., Poizat, G., Saury, J., & Sève, C. (2011). Description of dynamic shared knowledge: an exploratory study during a competitive team sports interaction. *Ergonomics*, 54(2), 120-138. <https://doi.org/10.1080/00140139.2010.544763>

Boyd, R. L., & Schwartz, H. A. (2021). Natural language analysis and the psychology of verbal behavior: The past, present, and future states of the field. *Journal of Language and Social Psychology*, 40(1), 21-41. <https://doi.org/10.1177/0261927X20967028>

Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: a research note. *Qualitative research*, 8(1), 137-152. <https://doi.org/10.1177/1468794107085301>

Bowey, J. T., Birk, M. V., & Mandryk, R. L. (2015). Manipulating leaderboards to induce player experience. In *Proceedings of the 2015 annual symposium on computer-human interaction in play* (pp. 115-120). <https://doi.org/10.1145/2793107.2793138>

Braithwaite, A. (2016). It's about ethics in games journalism? Gamergaters and geek masculinity. *Social Media+ Society*, 2(4), 2056305116672484. <https://doi.org/10.1177/2056305116672484>

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>

Broughton, M. (2020, April 17). Europe mobile game revenue hits record high; Riot acquires Hypixel. *Gaming Economy*. Retrieved May 10, 2023, from <https://www.thegamingeconomy.com/2020/04/17/europe-mobile-game-revenue-hits-record-high-riot-acquires-hypixel/>

Brown, S. (2009). *Play: How it shapes the brain, opens the imagination, and invigorates the soul*. Penguin Random House.

Bruckman, A. (2002). Studying the amateur artist: A perspective on disguising data collected in human subjects research on the Internet. *Ethics and Information Technology*, 4, 217-231. <https://doi.org/10.1023/A:1021316409277>

Bubna, K., Trotter, M. G., Polman, R., & Poulus, D. R. (2023). Terminology matters: defining the esports athlete. *Frontiers in sports and active living*, 5, 1232028. <https://doi.org/10.3389/fspor.2023.1232028>

Bubna, K., Trotter, M. G., Polman, R., & Poulus, D. R. (2023). Terminology matters: defining the esports athlete. *Frontiers in sports and active living*, 5, 1232028. <https://doi.org/10.3389/fspor.2023.1232028>

Buckels, E. E., Trapnell, P. D., & Paulhus, D. L. (2014). Trolls just want to have fun. *Personality and Individual Differences*, 67, 97-102. <https://doi.org/10.1016/j.paid.2014.01.016>

Caillois, R. (1959/2001). *Man and the sacred*. Urbana, IL: University of Illinois Press.

Campo, M., Mellalieu, S., Ferrand, C., Martinent, G., & Rosnet, E. (2012). Emotions in team contact sports: A systematic review. *The Sport Psychologist*, 26(1), 62-97. <https://doi.org/10.1123/tsp.26.1.62>

Canossa, A., Salimov, D., Azadvar, A., Harteveld, C., & Yannakakis, G. (2021). For honor, for toxicity: Detecting toxic behavior through gameplay. *Proceedings of the ACM on Human-Computer Interaction*, 5(CHI PLAY), 1-29. <https://doi.org/10.1145/3474680>

Cardano, M. (2009). *Ethnography And Reflexivity. Notes on the Construction of Objectivity in Ethnographic Research*. NetPaper del Dipartimento di scienze sociali, 1/2009. Retrieved from: [http://aperto.unito.it/bitstream/2318/622/1/Netpaper\\_Cardano\\_2009.pdf](http://aperto.unito.it/bitstream/2318/622/1/Netpaper_Cardano_2009.pdf)

Caroux, L., & Pujol, M. (2023). Player enjoyment in video games: A systematic review and meta-analysis of the effects of game design choices. *International Journal of Human-Computer Interaction*, 1-12. <https://doi.org/10.1080/10447318.2023.2210880>

Carras, M. C., Kalbarczyk, A., Wells, K., Banks, J., Kowert, R., Gillespie, C., & Latkin, C. (2018). Connection, meaning, and distraction: A qualitative study of video game play and mental health recovery in veterans treated for mental and/or behavioral health problems. *Social Science & Medicine*, 216, 124-132. <https://doi.org/10.1016/j.socscimed.2018.08.044>

Carter, D. (2005). Living in virtual communities: an ethnography of human relationships in cyberspace. *Information, Communication & Society*, 8(2), 148e167. <https://doi.org/10.1080/13691180500146235>

Ceci, L. (2023). Number of YouTube users worldwide from 2016 to 2021. Retrieved from: <https://www.statista.com/statistics/805656/number-youtube-viewers-worldwide/>

Chesney, T., Chuah, S. H., Hoffmann, R., Hui, W., & Larner, J. (2014). Skilled players cooperate less in multi-player games. *Journal of Gaming & Virtual Worlds*, 6(1), 21-31. [https://doi.org/10.1386/jgvw.6.1.21\\_1](https://doi.org/10.1386/jgvw.6.1.21_1)

Clarke, R. I., Lee, J. H., & Clark, N. (2017). Why Video Game Genres Fail: A Classificatory Analysis. *School of Information Studies - Faculty Scholarship*, 167. <https://surface.syr.edu/istpub/167>

Clement, J. (2024). *Most popular video game genres among internet users worldwide as of 3rd quarter 2022, by age group*. Retrieved from: <https://www.statista.com/statistics/1263585/top-video-game-genres-worldwide-by-age/>

Clement, J. (2023). *Call of Duty: Warzone average viewer count on Twitch 2023*. Statista. Retrieved from: <https://www.statista.com/statistics/1108965/call-of-duty-number-viewers/>

Clifford, J. (1997). *Spatial Practices: Fieldwork, Travel, and the Discipline of Anthropology*. London: Sage.

Carras, M. C., Kalbarczyk, A., Wells, K., Banks, J., Kowert, R., Gillespie, C., & Latkin, C. (2018). Connection, meaning, and distraction: A qualitative study of video game play and mental health recovery in veterans treated for mental and/or behavioral health problems. *Social Science & Medicine*, 216, 124-132. <https://doi.org/10.1016/j.socscimed.2018.08.044>

- Cole, H., & Gillies, M. (2022). Emotional Exploration and the Eudaimonic Gameplay Experience: A Grounded Theory. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (pp. 1-16). <https://doi.org/10.1145/3491102.3502002>
- Consalvo, M. (2007). *Cheating: Gaining advantage in videogames*. Cambridge, MA: The MIT Press. <https://doi.org/10.7551/mitpress/1802.003.0008>
- Corrigan, O. (2003). Empty ethics: the problem with informed consent. *Sociology of Health and Illness*, 25(3), 769-92. <https://doi.org/10.1046/j.1467-9566.2003.00369.x>
- Cramton, C. D. (2001). The mutual knowledge problem and its consequences for dispersed collaboration. *Organization science*, 12(3), 346-371. <https://doi.org/10.1287/orsc.12.3.346.10098>
- De Kort, Y. A., & Ijsselstein, W. A. (2008). People, places, and play: player experience in a socio-spatial context. *Computers in Entertainment (CIE)*, 6(2), 1-11. <http://doi.acm.org/10.1145/1371216.1371221>
- De Simone, J. J. (2013). What is good can also be bad: The prosocial and antisocial in-game behaviors of young video game players. *Atlantic Journal of Communication*, 21(3), 149-163. <https://doi.org/10.1080/15456870.2013.801756>
- de Valk, L., Bekker, T., Eggen, B., & Van Den Hoven, E. (2015). Designing for social interaction in open-ended play environments. *International Journal of Design*, 9(1), 107-120
- DeSanctis, G., & Monge, P. (1999). Introduction to the special issue: Communication processes for virtual organizations. *Organization Science*, 10(6), 693-703. <https://doi.org/10.1287/orsc.10.6.693>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: defining “gamification”. In *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments* (pp. 9-15). <https://doi.org/10.1145/2181037.2181040>
- Dibbell, J. (2016). Invisible labor, invisible play: Online gold farming and the boundary between jobs and games. *18 Vanderbilt Journal of Entertainment and Technology Law*, 419.

Doerfel, M. L., & Moore, P. J. (2016). Digitizing strength of weak ties: Understanding social network relationships through online discourse analysis. *Annals of the International Communication Association*, 40(1), 127-148. <https://doi.org/10.1080/23808985.2015.11735258>

Domínguez, D., Beaulieu, A., Estalella, A., Gómez, E., Schnettler, B., & Read, R. (2007). *Virtual Ethnography*. New York: Peter Lang.

Drew, P., Chatwin, J., & Collins, S. (2001). Conversation analysis: a method for research into interactions between patients and health-care professionals. *Health Expectations*, 4(1), 58-70. <https://doi.org/10.1046/j.1369-6513.2001.00125.x>

Ducheneaut, N., Yee, N., Nickell, E., & Moore, R. J. (2006). "Alone together?" Exploring the social dynamics of massively multiplayer online games. In *Proceedings of the SIGCHI conference on Human Factors in computing systems* (pp. 407-416). <https://doi.org/10.1145/1124772.1124834>

Eby, L. T., & Dobbins, G. H. (1997). Collectivistic orientation in teams: an individual and group-level analysis. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 18(3), 275-295. Wiley.

Eduardo. (2023). Activision is working on a CoD league for women and marginalized genders. Dragster. Retrieved from: <https://www.fragster.com/activision-is-working-on-a-cod-league-for-women-and-marginalized-genders/>

Elias, G. S., Garfield, R., & Gutschera, K. R. (2020). *Characteristics of games*. The MIT Press, Cambridge, Massachusetts.

Erikson, E. H. (1950). *Childhood and society*. New York: W. W. Norton & Co.

Erikson, E. H. (1977). *Toys and Reasons: Stages in the Ritualization of Experience*. New York: W. W. Norton & Co.

Eshuis, S., Pozzebon, K., Allen, A., & Kannis-Dymand, L. (2023). Player Experience and Enjoyment: A Preliminary Examination of Differences in Video Game Genre. *Simulation & Gaming*, 54(2), 209-220. <https://doi.org/10.1177/10468781231158818>

Esmaeili, H., & Woods, P. C. (2016). Calm down buddy! it's just a game: Behavioral patterns observed among teamwork MMO participants in WARGAMING's world of tanks. In *2016 22nd International Conference on Virtual System & Multimedia (VSMM)* (pp. 1-11). IEEE. <https://doi.org/10.1109/VSMM.2016.7863147>

Esports Charts (2023). *Esports team statistics*. Retrieved from: <https://escharts.com/teams>

Ess, C. & AoIR. (2002). Ethical decision-making and Internet research: Recommendations from the aoir ethics working committee. Retrieved from: [www.aoir.org/reports/ethics.pdf](http://www.aoir.org/reports/ethics.pdf)

Faden, R., Beauchamp, T. (1986). *A history and theory of informed consent*. Oxford: Oxford University Press.

Ferguson, C. J., Trigani, B., Pilato, S., Miller, S., Foley, K., & Barr, H. (2016). Violent video games don't increase hostility in teens, but they do stress girls out. *Psychiatric quarterly*, 87, 49-56. <https://doi.org/10.1007/s11126-015-9361-7>

Folger, R., & Baron, R. A. (1996). Violence and hostility at work: A model of reactions to perceived injustice. In G. R. VandenBos & E. Q. Bulatao (Eds.), *Violence on the job: Identifying risks and developing solutions* (pp. 51–85). American Psychological Association. <https://doi.org/10.1037/10215-002>

Foo, C. Y., & Koivisto, E. M. (2004). Defining grief play in MMORPGs: player and developer perceptions. In *Proceedings of the 2004 ACM SIGCHI International Conference on Advances in computer entertainment technology* (pp. 245-250). <https://doi.org/10.1145/1067343.1067375>

Formosa, J., Johnson, D., Türkay, S., & Mandryk, R. L. (2022a). Need satisfaction, passion and wellbeing effects of videogame play prior to and during the COVID-19 pandemic. *Computers in Human Behavior*, 131, 107232. <https://doi.org/10.1016/j.chb.2022.107232>

Formosa, J., O'donnell, N., Horton, E. M., Türkay, S., Mandryk, R. L., Hawks, M., & Johnson, D. (2022b). Definitions of Esports: A Systematic Review and Thematic Analysis.

*Proceedings of the ACM on Human-Computer Interaction*, 6(CHI PLAY), 1-45.

<https://doi.org/10.1145/3549490>

Freeman, G., & Wohn, D. Y. (2017). eSports as an emerging research context at CHI: Diverse perspectives on definitions. In *Proceedings of the 2017 CHI conference extended abstracts on human factors in computing systems* (pp. 1601-1608).

<https://doi.org/10.1145/3027063.3053158>

Freeman, G., & Wohn, D. Y. (2019). Understanding eSports team formation and coordination. *Computer supported cooperative work (CSCW)*, 28, 95-126.

<https://doi.org/10.1007/s10606-017-9299-4>

Freud, S. (1920/1959). *Beyond the Pleasure Principle*. W. W. Norton & Company. New York, London.

Frostling-Henningsson, M. (2009). First-person shooter games as a way of connecting to people: “Brothers in blood”. *Cyberpsychology & behavior*, 12(5), 557-562.

<https://doi.org/10.1089/cpb.2008.0345>

Fullerton, T., Swain, C., Hoffman, S. S. (2008). *Game Design Workshop*. Morgan Kaufmann, Burlington, MA (2008).

García-Lanzo, S., & Chamarro, A. (2018). Basic psychological needs, passion and motivations in amateur and semi-professional eSports players. *Aloma: revista de psicologia, ciències de l'educació i de l'esport Blanquerna*, 36(2), 59-68.

<https://doi.org/10.51698/aloma.2018.36.2.59-68>

Garfinkel, H. (1967). *Studies in ethnomethodology*. Prentice Hall.

Geertz, C. (1973). *The Interpretation of Cultures*. New York: Basic Books.

Gerhardt, L., & Smith, J. (2020). The use of Minecraft in the Treatment of Trauma for a Child with Autism Spectrum Disorder. *Journal of Family Therapy*.

<https://doi.org/10.1111/1467-6427.12297>

Giakoni-Ramírez, F., Merellano-Navarro, E., & Duclos-Bastías, D. (2022). Professional esports players: motivation and physical activity levels. *International journal of environmental research and public health*, 19(4), 2256.

<https://doi.org/10.3390/ijerph19042256>

Gibson, E., Griffiths, M. D., Calado, F., & Harris, A. (2022). The relationship between videogame micro-transactions and problem gaming and gambling: A systematic review. *Computers in Human Behavior*, 131, 107219. <https://doi.org/10.1016/j.chb.2022.107219>

Gill, D., Prowse, V., & Vlassopoulos, M. (2013). Cheating in the workplace: An experimental study of the impact of bonuses and productivity. *Journal of Economic Behavior & Organization*, 96, 120-134. <http://dx.doi.org/10.1016/j.jebo.2013.09.011>

Goggin, J. (2011). Playbour, farming and leisure. *Ephemera: theory & politics in organization*, 11(4).

Goren, E. (2019). *Mimetic rivalry in shared virtual environments: A study of conflict and imitation in World of Warcraft* (Doctoral dissertation, Brunel University London).

Grand View Research. (2020). Video Game Market Size, Share & Trends Analysis Report By Device (Console, Mobile, Computer), By Type (Online, Offline), By Region, And Segment Forecasts, 2020 - 2027. Retrieved from: <https://www.grandviewresearch.com/industry-analysis/video-game-market>

Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 78(6), 1360-1380. <https://www.jstor.org/stable/2776392>

Gray, P. B., Vuong, J., Zava, D. T., & McHale, T. S. (2018). Testing men's hormone responses to playing League of Legends: No changes in testosterone, cortisol, DHEA or androstenedione but decreases in aldosterone. *Computers in Human Behavior*, 83, 230-234. <https://doi.org/10.1016/j.chb.2018.02.004>

Greenberg, J. (2002). Who stole the money, and when? Individual and situational determinants of employee theft. *Organizational Behavior and Human Decision Processes*, 89(1), 985-1003. [https://doi.org/10.1016/S0749-5978\(02\)00039-0](https://doi.org/10.1016/S0749-5978(02)00039-0)

- Greer, L. L., Van Bunderen, L., & Yu, S. (2017). The dysfunctions of power in teams: A review and emergent conflict perspective. *Research in Organizational Behavior*, 37, 103-124. <https://doi.org/10.1016/j.riob.2017.10.005>
- Grimshaw, M., Lindley, C., & Nacke, L. (2008). Sound and immersion in the first-person shooter: Mixed measurement of the player's sonic experience. *Games Computing and Creative Technologies: Journal Articles (Peer-Reviewed)*. Paper 7.
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Guhde, A. (2017). The other game: A Journey into the World of Warcraft. *Psychoanalytic Inquiry*, 37(1), 35-45. <https://doi.org/10.1080/07351690.2017.1250588>
- Guzmán, A. D. (2023). Games as Socio-Technical Systems. In *Proceedings of the 17th European Conference on Games Based Learning* (Vol. 17, No. 1, pp. 748-755).
- Guo, Z., Cahalane, M., & Carbonie, A. (2024). Online gaming with a purpose: exploring positive personal development achieved through esports play. *Behaviour & Information Technology*, 43(1), 72-94. <https://doi.org/10.1080/0144929X.2022.2154266>
- Hahsler, M., & Koch, S. (2004). Cooperation and disruptive behaviour-Learning from a multi-player internet gaming community. In *IADIS International Conference Web Based Communities* (pp. 35-42).
- Hamari, J., & Tuunanen, J. (2014). Player types: A meta-synthesis. *Trans. Digit. Games Res. Assoc.*, 1. <https://doi.org/10.26503/TODIGRA.V1I2.13>
- Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on twitch: fostering participatory communities of play within live mixed media. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1315-1324). <https://doi.org/10.1145/2556288.2557048>
- Haqq, D., & McCrickard, D. S. (2020). Playing together while apart: Exploring asymmetric and interdependent games for remote play. In *Extended Abstracts of the 2020 Annual*

Symposium on Computer-Human Interaction in Play (pp. 253-256).

<https://doi.org/10.1145/3383668.3419886>

Harviainen, T. J., & Vesa, M. (2016). Massively multiplayer online games as information systems: Implications for organizational learning systems. In *Conference of the International Simulation and Gaming Association* (pp. 105-120). <https://doi.org/10.1007/978-981-10-0575-6>

Heintz, S., & Law, E. L. C. (2015). The Game Genre map: a Revised Game Classification. In *Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in play* (pp. 175–184). <https://doi.org/10.1145/2793107.2793123>

Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human resource management review*, 15(1), 69-95. <https://doi.org/10.1016/j.hrmmr.2005.01.002>

Heverin, T., & Zach, L. (2012). Use of microblogging for collective sense-making during violent crises: A study of three campus shootings. *Journal of the American Society for Information Science and Technology*, 63(1), 34–47. <https://doi.org/10.1002/asi.21685>

Himmelstein, D., Liu, Y., & Shapiro, J. L. (2017). An exploration of mental skills among competitive league of legend players. *International Journal of Gaming and Computer-Mediated Simulations*, 9(2), 1–21. <https://doi.org/10.4018/IJGCMS.2017040101>

Hine, C. (2000). *Virtual Ethnography*. London: Sage.

Hodge, S. E., Vykoukal, M., McAlaney, J., Bush-Evans, R. D., Wang, R., & Ali, R. (2022). What's in the box? Exploring UK players' experiences of loot boxes in games; the conceptualisation and parallels with gambling. *PloS one*, 17(2), e0263567. <https://doi.org/10.1371/journal.pone.0263567>

Hofstadter, R. (1965). *The paranoid style in American politics and other essays*. New York: Knopf.

Homan, R. (1991). *The ethics of social research*. London: Macmillan.

- Horton, D., & Wohl, R. (2016). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry*, 19(3), 215-229. <https://doi.org/10.1080/00332747.1956.11023049>
- Huang, J., Yan, E., Cheung, G., Nagappan, N., & Zimmermann, T. (2017). Master maker: Understanding gaming skill through practice and habit from gameplay behavior. *Topics in cognitive science*, 9(2), 437-466. <https://doi.org/10.1111/tops.12251>
- Huizinga, J. (1955). *Homo Ludens*. Boston, MA: The Beacon Press.
- Hullett, K. (2012). *The science of level design: Design patterns and analysis of player behavior in first-person shooter levels* (Doctoral dissertation, UC Santa Cruz).
- Hunicke, R., LeBlanc, M., & Zubek, R. (2004). MDA: A Formal Approach to Game Design and Game Research. *Proceedings of the AAAI Workshop on Challenges in Game AI*, 4(1), 1722-1727.
- Hyeong, J. H., Choi, K. J., Lee, J. Y., & Pyo, T.-H. (2020). For whom does a game update? Players' status-contingent gameplay on online games before and after an update. *Decision Support Systems*, 139, 113423. <https://doi.org/10.1016/j.dss.2020.113423>
- Iacovides, I., & Mekler, E. D. (2019). The role of gaming during difficult life experiences. In *Proceedings of the 2019 CHI conference on human factors in computing systems* (pp. 1-12). <https://doi.org/10.1145/3290605.3300453>
- Ishaq Bhatti, M., Awan, H. M., & Razaq, Z. (2014). The key performance indicators (KPIs) and their impact on overall organizational performance. *Quality & Quantity*, 48, 3127-3143. <https://doi.org/10.1007/s11135-013-9945-y>
- Jasny, M. (2023). Preparing for esports competitions: gaming communities of practice. *Acta Universitatis Lodzianis. Folia Sociologica*, (84), 75-86. <https://doi.org/10.18778/0208-600X.84.05>
- Jenkins, H. (2004). Game design as narrative architecture. *Computer*, 44(3), 118-130.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). Big five inventory. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/t07550-000>

Jonnalagadda, A., Frosio, I., Schneider, S., McGuire, M., & Kim, J. (2021). Robust vision-based cheat detection in competitive gaming. In *Proceedings of the ACM on Computer Graphics and Interactive Techniques*, 4(1), 1–18. <https://doi.org/10.1145/3451259>

Jorgensen, D. L. (1989). *Participant observation: A methodology for human studies*. Sage Publications, Inc. <https://doi.org/10.4135/9781412985376>

Juul, J. (2010). *A Casual Revolution: Reinventing Video Games and Their Players*. London, UK: The MIT Press.

Kaye, L. K., & Bryce, J. (2012). Putting the fun factor into gaming: The influence of social contexts on the experiences of playing videogames. *International Journal of Internet Science*, 7(1), 23-37. ISSN 1662-5544

Khromov, N., Korotin, A., Lange, A., Stepanov, A., Burnaev, E., & Somov, A. (2019). Esports athletes and players: A comparative study. *IEEE Pervasive Computing*, 18(3), 31-39.

King, D. L., & Delfabbro, P. H. (2014). The cognitive psychology of Internet gaming disorder. *Clinical Psychology Review*, 34(4), 298-308.

<https://doi.org/10.1016/j.cpr.2014.03.006>

King, D. L., Delfabbro, P. H., Billieux, J., & Potenza, M. N. (2020). Problematic online gaming and the COVID-19 pandemic. *Journal of Behavioral Addictions*, 9(2), 184-186.

<https://doi.org/10.1556/2006.2020.00016>

Kleinman, E., Chojnacki, S., & Seif El-Nasr, M. (2021). The gang's all here: How people used games to cope with COVID19 quarantine. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (pp. 1-12). <https://doi.org/10.1145/3411764.3445072>

Konijn, E. A., Tanis, M., & De Ruyter, B. (2008). *Mediated Interpersonal Communication*. Routledge.

- Korsgaard, M. A., Picot, A., Wigand, R. T., Welpel, I. M., & Assmann, J. J. (2010). Cooperation, coordination, and trust in virtual teams: Insights from virtual games. *Online worlds: Convergence of the real and the virtual*, 253-264. [https://doi.org/10.1007/978-1-84882-825-4\\_20](https://doi.org/10.1007/978-1-84882-825-4_20)
- Kou, Y., & Gui, X. (2020). Emotion regulation in eSports gaming: a qualitative study of league of legends. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW2), 1-25. <https://doi.org/10.1145/3415229>
- Kou, Y., Gui, X., Zhang, S., & Nardi, B. (2017). Managing disruptive behavior through non-hierarchical governance: Crowdsourcing in League of Legends and Weibo. *Proceedings of the ACM on Human-Computer Interaction*, 1(CSCW), 1-17. <https://doi.org/10.1145/3134697>
- Kozinets, R. (2015). *Netnography: Redefined*. 2<sup>nd</sup> Edition, Sage Publishing.
- Kramer, R. M. (2001). Organizational paranoia: Origins and dynamics. *Research in Organizational Behavior*, 23, 1-42. [https://doi.org/10.1016/S0191-3085\(01\)23002-0](https://doi.org/10.1016/S0191-3085(01)23002-0)
- Krcmar, M., McGloin, R., Farrar, K. M., & Scott Li, S. (2018). 'What is my Call of Duty?': Exploring the importance of player experience in a first-person shooter video game. *Journal of Gaming & Virtual Worlds*, 10(2), 167-187. [https://doi.org/10.1386/jgvw.10.2.167\\_1](https://doi.org/10.1386/jgvw.10.2.167_1)
- Kozinets, R. v. (2010). Netnography: The Marketer's Secret Weapon. How Social Media Understanding Drives Innovation. *White paper*, 1-13.
- Kücklich, J. (2005). Precarious playbour: Modders and the digital games industry. *Fibreculture*, 5(1), 1-5.
- Kwak, H., Blackburn, J., & Han, S. (2015, April). Exploring cyberbullying and other toxic behavior in team competition online games. In *Proceedings of the 33rd annual ACM conference on human factors in computing systems* (pp. 3739-3748). <https://doi.org/10.1145/2702123.2702529>
- Landers, R. N., Tondello, G. F., Kappen, D. L., Collmus, A. B., Mekler, E. D., & Nacke, L. E. (2019). Defining gameful experience as a psychological state caused by gameplay:

Replacing the term 'Gamefulness' with three distinct constructs. *International Journal of Human-Computer Studies*, 127, 81-94. <https://doi.org/10.1016/j.ijhcs.2018.08.003>

Leavitt, A., Keegan, B. C., & Clark, J. (2016). Ping to win? Non-verbal communication and team performance in competitive online multiplayer games. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (pp. 4337-4350).

<https://doi.org/10.1145/2858036.2858132>

LeCompte, M. D., & Goetz, J. P. (1982). Problems of reliability and validity in ethnographic research. *Review of Educational Research*, 52(1), 31-60.

<https://doi.org/10.3102/00346543052001031>

Lenfesty, H. L., & Morgan, T. J. (2019). By reverence, not fear: Prestige, religion, and autonomic regulation in the evolution of cooperation. *Frontiers in Psychology*, 10, 2750.

<https://doi.org/10.3389/fpsyg.2019.02750>

Liao, G. Y., Van Nguyen, H., Cheng, T. C. E., & Teng, C. I. (2020). How do social networks foster online gamer loyalty? Perspective of weak/strong tie theory. *Telematics and Informatics*, 53, 101437. <https://doi.org/10.1016/j.tele.2020.101437>

Liu, P., & Ran, Y. (2016). The role of metapragmatic expressions as pragmatic manipulation in a TV panel discussion program. *Pragmatics and Society*, 7(3), 463-481.

<https://doi.org/10.1075/ps.7.3.06liu>

Lucas, K., & Sherry, J. L. (2004). Sex differences in video game play: A communication-based explanation. *Communication research*, 31(5), 499-523.

<https://doi.org/10.1177/0093650204267930>

Lucy, J. A. (1993). *Reflexive Language: Reported Speech and Metapragmatics*. Cambridge: Cambridge University Press.

Ludwig, S., Lachmann, K., Papenbrock, J., & Mesonero, S. (2021). Let's play! 2021. The European esports market. *Deloitte Insights*, 1-38. Retrieved from:

<https://www2.deloitte.com/cz/en/pages/technology-media-and-telecommunications/articles/esports-market-2021-lets-play.html>

Lugosi, P. (2006). Between overt and covert research. Concealment and Disclosure in an Ethnographic Study of Commercial Hospitality. *Qualitative Inquiry*, 12(3) 541- 561.

<https://doi.org/10.1177/1077800405282801>

Lukacs, A., Embrick, D. G., & Wright, T. (2010). The managed hearthstone: Labor and emotional work in the online community of World of Warcraft. In *Facets of Virtual Environments: First International Conference, FaVE 2009, Berlin, Germany, July 27-29, 2009, Revised Selected Papers 1* (pp. 165-177). Springer Berlin Heidelberg.

[https://doi.org/10.1007/978-3-642-11743-5\\_13](https://doi.org/10.1007/978-3-642-11743-5_13)

Lund, A. M. (2014). Playing, Gaming, Working and Labouring: Framing the Concepts and Relations. *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, 12, 735-801. <https://doi.org/10.31269/TRIPLEC.V12I2.536>

Maddox, A. (2020). Disrupting The Ethnographic Imaginarium: Challenges Of Immersion In The Silk Road Cryptomarket Community. *Journal Digital Social Research*, 2(1), pp. 20-38.

<https://doi.org/10.33621/jdsr.v2i1.23>

Mamerow, M. (2023). Why Are First Person Shooters So Popular? (11+ Reasons). Retrieved from: <https://raiseyourskillz.com/why-are-first-person-shooters-so-popular-11-reasons/>

Mandryk, R. L., Frommel, J., Goyal, N., Freeman, G., Lampe, C., Vieweg, S., & Wohn, D. Y. (2023). Combating Toxicity, Harassment, and Abuse in Online Social Spaces: A Workshop at CHI 2023. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-7). <https://doi.org/10.1145/3544549.3573793>

Marlow, S. L., Lacerenza, C. N., & Salas, E. (2017). Communication in virtual teams: A conceptual framework and research agenda. *Human resource management review*, 27(4), 575-589. <https://doi.org/10.1016/j.hrmr.2016.12.005>

Marshall, M. N. (1996). Sampling for qualitative research. *Family practice*, 13(6), 522-526. <https://doi.org/10.1093/fampra/13.6.522>

Marwick, A. (2012). The public domain: Surveillance in everyday life. *Surveillance & Society*, 9(4), 378–393. <https://doi.org/10.24908/ss.v9i4.4342>

Matsui, A., Sapienza, A., & Ferrara, E. (2020). Does streaming esports affect players' behavior and performance?. *Games and Culture*, 15(1), 9-31.

<https://doi.org/10.1177/1555412019838095>

McWhertor, M. (2024). Call of Duty team finally ready to address players' big complaint: 'skill-based matchmaking'. Devs aim to demystify the concept of SBMM. Retrieved from:

<https://www.polygon.com/24054710/call-of-duty-sbmm-skill-based-matchmaking-explained>. Accessed February, 2024.

Meades, A. F. (2015). *Understanding counterplay in video games*. Routledge: New York.

Mitchell, M. S., Baer, M. D., Ambrose, M. L., Folger, R., & Palmer, N. F. (2018). Cheating under pressure: A self-protection model of workplace cheating behavior. *Journal of Applied Psychology*, 103(1), 54. <https://doi.org/10.1037/apl0000254>

Mondada, L. (2012). Coordinating action and talk-in-interaction in and out of video games. In Ruth Ayaß and Cornelia Gerhardt Eds., *The appropriation of media in everyday life*, 231-270. <https://doi.org/10.1075/pbns.224.10mon>

Moralde, O. (2014). Cause No Trouble: The Experience of "Serious Fun" in Papers, Please. In *Proceedings of the DiGRA 2014 Conference, Utah, Digital Games Research Association* (pp. 3-6).

Morris, S. (2004). Shoot first, ask questions later: Ethnographic research in an online computer gaming community. *Media International Australia*, 110(1), 31-41.

<https://doi.org/10.1177/1329878X0411000106>

Murthy, D. (2011). *Emergent digital ethnographic methods for social research*. New York: Palgrave Macmillan.

Musick, G., Zhang, R., McNeese, N. J., Freeman, G., & Hridi, A. P. (2021). Leveling up teamwork in esports: Understanding team cognition in a dynamic virtual environment.

*Proceedings of the ACM on human-computer interaction*, 5(CSCW1), 1-30.

<https://doi.org/10.1145/3449123>

Nacke, L. E., Bateman, C., & Mandryk, R. L. (2014). BrainHex: A neurobiological gamer typology survey. *Entertainment Computing*, 5(1), 55-62

<https://doi.org/10.1016/j.entcom.2013.06.002>

Nacke, L., & Drachen, A. (2011). Towards a framework of player experience research. In *Proceedings of the second international workshop on evaluating player experience in games at FDG* (Vol. 11).

Nacke, L., & Lindley, C. A. (2008). Flow and immersion in first-person shooters: measuring the player's gameplay experience. In *Proceedings of the 2008 conference on future play: Research, play, share* (pp. 81-88). <https://doi.org/10.1145/1496984.1496998>

Nakamura, L. (2014). Gender and Race Online. In *Society and the Internet: How Networks of Information and Communication are Changing Our Lives*, Eds. Mark Graham and Willidam H. Dutton: Oxford University Press.

Nardi, B. A. (2010). *My Life as a Night Elf Priest: An Anthropological Account of World of Warcraft*. University of Michigan Press. <http://www.jstor.org/stable/j.ctvndv9nw>

Naweed, A., Irwin, S. V., & Lastella, M. (2023). Varieties of (un) sportsmanlike conduct in the FPS esports genre: A taxonomic classification of 'esportsmanship'. *Journal of Global Sport Management*, 8(2), 503-523. <https://doi.org/10.1080/24704067.2020.1846907>

Ngai, A. C. Y. (2005). *Cultural Influences On Video Games: players' preferences in narrative and game-play*. Master's thesis, University of Waterloo. Available at: <http://hdl.handle.net/10012/770>

Ohno, S. (2021). The link between battle royale games and aggressive feelings, addiction, and sense of underachievement: exploring esports-related genres. *International Journal of Mental Health and Addiction*, 1-9. <https://doi.org/10.1007/s11469-021-00488-0>

Oldenburg, R. (1989). *The Great Good Place: Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day*. New York: Paragon House. ISBN 978-1-55778-110-9. (Hardback)

Ortiz, S. M. (2020). Trolling as a collective form of harassment: An inductive study of how online users understand trolling. *Social Media+ Society*, 6(2), 2056305120928512.

<https://doi.org/10.1177/2056305120928512>

Oxford English Dictionary. (2014). Video game, meaning. Retrieved from:

<http://www.oxforddictionaries.com/definition/english/video-game>

Paccagnella, L. (1997). Getting the seats of your pants dirty: Strategies for ethnographic research on virtual communities. *Journal of Computer-Mediated Communication*, 3(1),

JCMC314. <https://doi.org/10.1111/j.1083-6101.1997.tb00065.x>

Pantling, A. (2020). *Gaming usage up 75 percent amid Corona virus outbreak, Verizon reports*. The Hollywood Reporter. Retrieved from:

<https://www.hollywoodreporter.com/news/gaming-usage-up-75-percentcoronavirus-outbreak-verizon-reports-1285140>, Accessed January 23, 2021.

Patriarca, A., Di Giuseppe, G., Albano, L., Marinelli, P., & Angelillo, I. F. (2009). Use of television, videogames, and computer among children and adolescents in Italy. *BMC Public Health*, 9, 139, 1-10. <https://doi.org/10.1186/1471-2458-9-139>

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. SAGE Publications.

Pekmic, A. (2021). Is warzone dying? Player count shows current state of the game.

Retrieved November 16, 2021, from: <https://www.vgr.com/is-warzone-dying-player-count-shows-current-state-of-the-game/>

Peña, J., & Hancock, J. T. (2006). An analysis of socioemotional and task communication in online multiplayer video games. *Communication research*, 33(1), 92-109.

<https://doi.org/10.1177/0093650205283103>

Perez, C. (2019). Everything You Need to Know About a Streamer and Streaming. Retrieved from: <https://www.esportstalk.com/blog/what-is-a-streamer-everything-you-need-to-know-34298/>. Accessed, December 2023.

Perla, P. P., Markowitz, M., Nofi, A., Weuve, C., Loughran, J., & Stahl, M. (2000). *Gaming and shared situation awareness*. Center for Naval Analyses.

Pfeil, U., & Zaphiris, P. (2010). Applying qualitative content analysis to study online support communities. *Universal Access in the Information Society*, 9(1), 1-16.

<https://doi.org/10.1007/s10209-009-0154-3>

Piaget, J. (1951). *Play, dreams and imitation in childhood* (Vol. 25). Routledge.

Poor, N., & Skoric, M. M. (2014). Death of a guild, birth of a network: Online community ties within and beyond code. *Games and Culture*, 9(3), 182-202.

<https://doi.org/10.1177/1555412014537401>

Poulus, D., Coulter, T. J., Trotter, M. G., & Polman, R. (2020). Stress and coping in esports and the influence of mental toughness. *Frontiers in psychology*, 11, 628.

<https://doi.org/10.3389/fpsyg.2020.00628>

Przybylski, A. K., Weinstein, N., Murayama, K., Lynch, M. F., & Ryan, R. M. (2012). The Ideal Self at Play: The Appeal of Video Games That Let You Be All You Can Be. *Psychological Science*, 23(1), 69–76. <https://doi.org/10.1177/0956797611418676>

Rapp, A. (2018a). Autoethnography in Human-Computer Interaction: Theory and Practice. In *New directions in third wave human-computer interaction: Volume 2- Methodologies*, 25-42. [https://doi.org/10.1007/978-3-319-73374-6\\_3](https://doi.org/10.1007/978-3-319-73374-6_3)

Rapp, A. (2018b). Social game elements in World of Warcraft: Interpersonal relations, groups, and organizations for gamification design. *International Journal of Human-Computer Interaction*, 34(8), 759-773. <https://doi.org/10.1080/10447318.2018.1461760>

Rapp, A. (2020). An exploration of World of Warcraft for the gamification of virtual organizations. *Electronic Commerce Research and Applications*, 42, 100985.

<https://doi.org/10.1016/j.elerap.2020.100985>

Raskauskas, J., & Stoltz, A. D. (2007). Involvement in traditional and electronic bullying among adolescents. *Developmental Psychology*, 43, 564–575. <https://doi.org/10.1037/0012-1649.43.3.564>

Reeves, S., Greiffenhagen, C., & Laurier, E. (2017). Video gaming as practical accomplishment: Ethnomethodology, conversation analysis, and play. *Topics in Cognitive Science*, 9(2), 308-342. <https://doi.org/10.1111/tops.12234>

Riar, M., Morschheuser, B., Zarnekow, R., & Hamari, J. (2023). Altruism or egoism—how do game features motivate cooperation? An investigation into user we-intention and I-intention. *Behaviour & Information Technology*, 1-25. <https://doi.org/10.1080/0144929X.2023.2196581>

Rico, R., Sánchez-Manzanares, M., Gil, F., & Gibson, C. (2008). Team implicit coordination processes: A team knowledge-based approach. *Academy of management review*, 33(1), 163-184. <https://doi.org/10.5465/amr.2008.27751276>

Riva, G., Mantovani, F., & Wiederhold, B. K. (2020). Positive technology and COVID-19. *Cyberpsychology, Behavior, and Social Networking*, 23(9), 581-587. <https://doi.org/10.1089/cyber.2020.29194.gri>

Robert, L. P., Denis, A. R., & Hung, Y. T. C. (2014). Individual swift trust and knowledge-based trust in face-to-face and virtual team members. *Journal of management information systems*, 26(2), 241-279. <https://doi.org/10.2753/MIS0742-1222260210>

Roschelle, J., & Teasley, S. D. (1995). The construction of shared knowledge in collaborative problem solving. In O'Malley, C. (eds.), *Computer Supported Collaborative Learning*. NATO ASI Series, vol 128. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-85098-1\\_5](https://doi.org/10.1007/978-3-642-85098-1_5)

Rosegrant, J. (2012). Technologically Altered Reality Inside the Therapist's Office. *Psychoanalytic Psychology*, 29(2), 226–240. <https://doi.org/10.1037/a0025329>

Rouse, R. (2005). *Game Design: Theory and Practice*, 2 ed. Wordware Publishing, Texas.

Rusk, F., Ståhl, M., & Taylor, N. (2024). Callouts as a coordinating device in a team-based networked first-person shooter game. *Social Sciences & Humanities Open*, 9, 100753. <https://doi.org/10.1016/j.ssaho.2023.100753>

Russo, V. (2017). Digital Ethnography Theories, Models and Case Studies. In: Hošková-Mayerová, Š., Maturó, F., Kacprzyk, J. (eds) *Mathematical-Statistical Models and Qualitative Theories for Economic and Social Sciences. Studies in Systems, Decision and Control*, vol 104. Springer, Cham. [https://doi.org/10.1007/978-3-319-54819-7\\_4](https://doi.org/10.1007/978-3-319-54819-7_4)

Russo V. (2015), L'espressione della sessualità attraverso l'uso dei social network, in Cipolla C., (a cura di) (2015), *La rivoluzione digitale della sessualità umana*, FrancoAngeli, Milano.

Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 30(4), 344-360. <https://doi.org/10.1007/s11031-006-9051-8>

Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78

Saldaña, J. (2021). *The coding manual for qualitative researchers* (2nd ed.). SAGE Publications.

Salen, K., & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals*. The MIT Press.

Salmons, J. (2015). *Qualitative online interviews*. Thousand Oaks: SAGE Publications.

Sengün, A., Kaya, Y., & Yıldırım, B. (2019). Analyzing Hate Speech Toward Players from the MENA in League of Legends. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-12). ACM. <https://doi.org/10.1145/3290607.3312924>

Seo, Y., & Jung, S. U. (2016). Beyond solitary play in computer games: The social practices of eSports. *Journal of Consumer Culture*, 16(3), 635-655. <https://doi.org/10.1177/1469540514553711>

Shibutani, T. (1966). *Improvised News: A Sociological Study of Rumor*. Ardent Media.

Shils, E. (1959). Social inquiry and the autonomy of the individual. In M. Bulmer (Ed.) 1982. *Social Research Ethics*. London: Macmillan.

- Skågeby, J. (2012). The irony of serendipity: disruptions in social information behaviour. *Library hi tech*, 30(2), 321-334. <https://doi.org/10.1108/07378831211239988>
- Sicart, M. A. (2019). Papers, Please: Ethics. In N. Huntemann, & M. T. Payne (Eds.), *How To Play Videogames* (pp. 149-156). New York University Press.
- Sjöblom, M., & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in human behavior*, 75, 985-996. <https://doi.org/10.1016/j.chb.2016.10.019>
- Smith, M. J., Birch, P. D., & Bright, D. (2019). Identifying stressors and coping strategies of elite esports competitors. *International Journal of Gaming and Computer-Mediated Simulations (IJGCMS)*, 11(2), 22-39. <https://doi.org/10.4018/IJGCMS.2019040102>
- Söbke, H. (2015). Gaming a Non-Game? A Long Term (Self-) Experiment about FarmVille. *Well Played*, 4(1), 215-50.
- Social Policy Association (SPA). (2009). *Social Policy Association Guidelines on Research Ethics*. Retrieved from: [http://www.social-policy.com/documents/SPA\\_code\\_ethics\\_jan09.pdf](http://www.social-policy.com/documents/SPA_code_ethics_jan09.pdf)
- Spicker, P. (2011). Ethical covert research. *Sociology*, 45(1), pp. 118-133. <https://doi.org/10.1177/0038038510387195>
- Steam. (2021). CS:GO - Overwatch System. Retrieved from <https://help.steampowered.com/en/faqs/view/65DA-BD12-0DE9-9853>
- Stebbins, R. A. (1992). *Amateurs, professionals, and serious leisure*. Montreal: McGill-Queen's Press.
- Steinkuehler, C. A., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as “third places”. *Journal of computer-mediated communication*, 11(4), 885-909. <https://doi.org/10.1111/j.1083-6101.2006.00300.x>

Stephen, B. (2020). *This is Twitch's moment*. The Verge. Accessed January 18, 2021, Retrieved from: <https://www.theverge.com/2020/3/18/21185114/twitchyoutube-livestreaming-streamelements-coronavirusquarantine-viewership-numbers>

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research techniques*. SAGE Publications.

Sutton-Smith, B. (1997). *The ambiguity of play*. Harvard University Press.

Sutton-Smith, B. (2017). *Play for life: Play theory and play as emotional survival*. The Strong.

Suznjevic, M., Dobrijevic, O., & Matijasevic, M. (2009). Hack, Slash, and Chat: A study of players' behavior and communication in MMORPGs. In *2009 8th Annual Workshop on Network and Systems Support for Games (NetGames)* (pp. 1-6). IEEE.

Sužnjević, M., Dobrijevic, O., & Matijasevic, M. (2009, November). Hack, Slash, and Chat: A study of players' behavior and communication in MMORPGs. In *2009 8th Annual Workshop on Network and Systems Support for Games (NetGames)* (pp. 1-6). IEEE. <https://doi.org/10.1109/NETGAMES.2009.5446235>

Švelch, J. (2019). Resisting the perpetual update: Struggles against protocological power in video games. *New Media & Society*, 21(7), 1594–1612. <https://doi.org/10.1177/1461444819828987>

Swab, R. G., & Johnson, P. D. (2018). Steel sharpens steel: A review of multilevel competition and competitiveness in organizations. *Journal of Organizational Behavior*, 40(2), 147-165. <https://doi.org/10.1002/job.2340>

Szolin, K., Kuss, D. J., Nuyens, F. M., & Griffiths, M. D. (2023). “I am the character, the character is me”: A thematic analysis of the user-avatar relationship in videogames. *Computers in Human Behavior*, 143, 107694. <https://doi.org/10.1016/j.chb.2023.107694>

Tajfel, H., & Turner, J. C. (1986). The social identity theory of inter-group behavior. In S. Worchel & L. W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago, IL: Nelson-Hall.

- Tan, E. T., Rogers, K., Nacke, L. E., Drachen, A., & Wade, A. (2022). Communication sequences indicate team cohesion: A mixed-methods study of Ad Hoc league of legends teams. *Proceedings of the ACM on Human-Computer Interaction*, 6(CHI PLAY), 1-27. <https://doi.org/10.1145/3549488>
- Tan, E., Wade, A., Kokkinakis, A., Heyes, G., Demediuk, S. P., & Drachen, A. (2021). Less is More:: Analysing Communication in Teams of Strangers. In *Proceedings of HICSS 54*.
- Tang, A., Massey, J., Wong, N., Reilly, D., & Edwards, W. K. (2012). Verbal coordination in first person shooter games. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work* (pp. 579-582). <https://doi.org/10.1145/2145204.2145292>
- Tavinor, G. (2008). Definition of Videogames. *Contemporary Aesthetics (Journal Archive)*: Vol. 6, Article 16. Available at: [https://digitalcommons.risd.edu/liberalarts\\_contempaesthetics/vol6/iss1/16](https://digitalcommons.risd.edu/liberalarts_contempaesthetics/vol6/iss1/16)
- Taylor, N. (2009). *Power Play: Digital Gaming Goes Pro*. PhD Dissertation, York University, Toronto.
- Taylor, N. (2015). Professional Gaming. *The International Encyclopedia of Digital Communication and Society*, 1-4. <https://doi.org/10.1002/9781118767771.wbiedcs041>
- Taylor, N., Bergstrom, K., Jenson, J., & de Castell, S. (2015). Alienated Playbour: Relations of Production in EVE Online. *Games and Culture*, 10(4), 365-388. <https://doi.org/10.1177/1555412014565507>
- Taylor, T. L. (2003). Power games just want to have fun?: instrumental play in a MMOG. In *Proceedings of the 2003 DiGRA International Conference: Level Up (DGRA'03)*, Vol. 2
- Taylor, T. L. (2012). *Raising the stakes: E-sports and the professionalization of computer gaming*. The MIT Press.
- Tedlock, B. (1991). From participant observation to the observation of participation: The emergence of narrative ethnography. *Journal of Anthropological Research*, 47(1), 69-94. <https://www.jstor.org/stable/3630581>

Teng, C.-I., T.-L. Huang, Z.-H. Yang, W.-J. Wu, and G.-Y. Liao. (2022). How Strategic, Offensive, and Defensive Engagement Impact Gamers' Need Satisfaction, Loyalty, and Game Usage. *International Journal of Information Management*, 66: 102515.

<https://doi.org/10.1016/j.ijinfomgt.2022.102515>

The Norwegian National Research Ethics Committees (NASH). (2016). *Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology*. Retrieved from:

<https://www.forskningsetikk.no/en/guidelines/social-sciences-humanities-law-and-theology/guidelines-for-research-ethics-in-the-social-sciences-humanities-law-and-theology/>

Thomas, J. (1984). Cross-cultural discourse as 'unequal encounter': Towards a pragmatic analysis<sup>1</sup>. *Applied linguistics*, 5(3), 226-235. <https://doi.org/10.1093/applin/5.3.226>

Törhönen, M., Hassan, L., Sjöblom, M., & Hamari, J. (2019). Play, playbour or labour? The relationships between perception of occupational activity and outcomes among streamers and YouTubers. In *Conference: 52nd Hawaii International Conference on System Sciences (HICSS'52)*, Maui HI, USA. <https://doi.org/10.24251/HICSS.2019.308>

Tjosvold, D., & Sun, H. F. (2002). Understanding conflict avoidance: Relationship, motivations, actions, and consequences. *International Journal of Conflict Management*, 13(2), 142-164. <https://doi.org/10.1108/eb022872>

Tomasello, M. (2009). *Why we cooperate*. The MIT press.

Tondello, G. F., Wehbe, R. R., Orji, R., Ribeiro, G., & Nacke, L. E. (2017). A framework and taxonomy of videogame playing preferences. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (pp. 329-340). <https://doi.org/10.1145/3116595.3116629>

Tost, L. P. (2015). When, why, and how do powerholders "feel the power"? Examining the links between structural and psychological power and reviving the connection between power and responsibility. *Research in Organizational Behavior*, 35, 29-56.

<https://doi.org/10.1016/j.riob.2015.10.004>

- Toups Dugas, P. O., Hammer, J., Hamilton, W. A., Jarrah, A., Graves, W., & Garretson, O. (2014). A framework for cooperative communication game mechanics from grounded theory. In *Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play* (pp. 257-266). <https://doi.org/10.1145/2658537.2658681>
- Treviño, L. K., Weaver, G. R., & Reynolds, S. J. (2006). Behavioral ethics in organizations: A review. *Journal of management*, 32(6), 951-990. <https://doi.org/10.1177/0149206306294258>
- Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Twenge, J. M. (2010). A review of the empirical evidence on generational differences in work attitudes. *Journal of Business and Psychology*, 25, 201-210. <https://doi.org/10.1007/s10869-010-9165-6>
- Valladão, S. P., Middleton, J., & Andre, T. L. (2020). Esport: Fortnite acutely increases heart rate of young men. *International journal of exercise science*, 13(6), 1217.
- Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. University of Chicago Press.
- Van Prooijen, J. W., & de Vries, R. E. (2016). Organizational conspiracy beliefs: Implications for leadership styles and employee outcomes. *Journal of Business and Psychology*, 31(4), 479-491. <https://doi.org/10.1007/s10869-015-9428-3>
- VandenBerghe, J. (2012). The 5 Domains of Play: Applying Psychology's Big 5 Motivation Domains to Games. *Game Developers' Conference*. Retrieved from: <https://gdcvault.com/play/1015595/The-5-Domains-of-Play>, Accessed 2 December 2012.
- Vesa, M. (2013). There be dragons! An ethnographic inquiry into the strategic practices and process of World of Warcraft gaming groups. Doctoral Dissertation. <https://doi.org/10.13140/RG.2.1.2446.4809>
- Vesa, M., Hamari, J., Harviainen, J. T., & Warmelink, H. (2017). Computer Games and Organization Studies. *Organization Studies*, 38(2), 273-284. <https://doi.org/10.1177/0170840616663242>

- von Gillern, S. (2021). Communication, cooperation, and competition: Examining the literacy practices of esports teams. In *Esports research and its integration in education* (pp. 148-167). IGI Global. <https://doi.org/10.4018/978-1-7998-7069-2.ch009>
- Vygotsky, L. (1962). *Thought and language* (p. 1962). Cambridge, MA: MIT Press.
- Walker, A. (2014). Watching us play: Postures and platforms of live streaming. *Surveillance & Society*, 12(3), 437-442. <https://doi.org/10.24908/ss.v12i3.5303>
- Walker, M. U. (2006). *Moral Repair: Reconstructing Moral Relations after Wrongdoing*. Cambridge: Cambridge University Press. ISBN: 9780521810883
- Walther, J. B., & Whitty, M. T. (2020). Language, psychology, and New New Media: The Hyperpersonal Model of Mediated Communication at Twenty-Five Years. *Communication Theory*, 30(2), 189–217. <https://doi.org/10.1093/ct/qta001>
- Wannigamage, D., Barlow, M., Lakshika, E., Kasmarik, K. (2020). Analysis and prediction of player population changes in digital games during the COVID-19 pandemic. *Australasian Joint Conference on Artificial Intelligence Virtual*. Springer, Cham, pp. 458–469. [https://doi.org/10.1007/978-3-030-64984-5\\_36](https://doi.org/10.1007/978-3-030-64984-5_36)
- Waskul, D., & Douglass, M. (1996). Considering the Electronic Participant: Some Polemical Observations on the Ethics of On-Line Research. *The Information Society*, 12, 129-139. <https://doi.org/10.1080/713856142>
- Weick, K. E. (1979). *The social psychology of organizing*. New York, NY: Random House.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press. ISBN 978-0-521-66363-2.
- Wenger E., McDermott R., Snyder W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Harvard Business School Press, Boston.
- Whitney, P. (2015). *This Is Why We Can't Have Nice Things: Mapping the Relationship Between Online Trolling and Mainstream Culture*. MIT Press

- Whorf, B. L. (1964). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. New York: Wiley.
- Wijava, S., Watson, J., Bruce, C. (2012). Addressing Public and Private Issues in a Virtual Ethnography Study of an Open Online Community: A Reflective Paper. *Queensland University of Technology ePrints Archive*.
- Wohn, D. Y., & Freeman, D. (2019). Live Streaming, Playing, and Money Spending Behaviors in eSports. *Journal of Computer-Mediated Communication*, 24(5), 256-273.  
<https://doi.org/10.1177/1555412019859184>
- Woodcock, A. & Johnson (2019). The Affective Labor and Performance of Live Streaming on Twitch.tv. In *Television & New Media*, 20(8), 813-823.  
<https://doi.org/10.1177/1527476419851077>
- Woods, S. (2004). Loading the Dice: The Challenge of Serious Videogames. *Game Studies*, 4(1), 207.
- Wrangham, R. W. (2021). Targeted conspiratorial killing, human self-domestication and the evolution of groupishness. *Evolutionary Human Sciences*, 3, e26.  
<https://doi.org/10.1017/ehs.2021.20>
- Xiao, Y., Hunter, W. A., Mackenzie, C. F., Jeffries, N. J., & Horst, R. L. T. (2001). Understanding coordination in a dynamic medical environment: Methods and results. In M. Mc-Neese, E. Salas, & M. Endsley (Eds.), *New trends in cooperative activities*, 242–258. Santa Monica, CA: Human Factors Society.
- Xu, Y., Cao, X., Sellen, A., Herbrich, R., & Graepel, T. (2011). Sociable killers: understanding social relationships in an online first-person shooter game. In *Proceedings of the ACM 2011 conference on Computer supported cooperative work* (pp. 197-206).  
<https://doi.org/10.1145/1958824.1958854>
- Yan, J. J., & Choi, H. J. (2002). Security issues in online games. *The Electronic Library*, 20(2), 125-133. <https://doi.org/10.1108/02640470210424455>

Ybema, S., Wels, H., & Yanow, D. (2009). *Organizational ethnography: Studying the complexity of everyday life*. London: Sage Publications Ltd.

Yee, N. (2006). The Labor of Fun: How Video Games Blur the Boundaries of Work and Play. *Games and Culture*, 1(1), 68-71. <https://doi.org/10.1177/1555412005281819>

Yee, N., & Ducheneaut, N. (2018). Gamer motivation profiling: Uses and applications. *Games User Research*, 485-490. <https://doi.org/10.1093/oso/9780198794844.003.0028>

Yin, M., & Xiao, R. (2022). The Reward for Luck: Understanding the Effect of Random Reward Mechanisms in Video Games on Player Experience. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (pp. 1-14).

<https://doi.org/10.1145/3491102.3517642>

Zhong, X., & Xu, J. (2022). Measuring the effect of game updates on player engagement: A cue from DOTA2. *Entertainment Computing*, 43, 100506.

<https://doi.org/10.1016/j.entcom.2022.100506>

Zhu, H., Sheng, Y., & Zhou, X. (2015). The benefits of conflict avoidance in collaboration. In *2015 IEEE 14th International Conference on Cognitive Informatics & Cognitive Computing (ICCI\* CC)* (pp. 221-229). IEEE. <https://doi.org/10.1109/ICCI-CC.2015.7259389>

Zimmer, F., & Scheibe, K. (2019). What drives streamers? Users' characteristics and motivations on social live streaming services. In *Proceedings of the 52nd Hawaii International Conference on System Sciences (HICSS)*, Grand Wailea, Maui, HI.

<https://hdl.handle.net/10125/59692>

Zonis, M., & Joseph, C. G. (1994). Conspiracy thinking in the Middle East. *Political Psychology*, 15, 443-459. <https://doi.org/10.2307/3791566>

Zsila, Á., Shabahang, R., Aruguete, M. S., & Orosz, G. (2022). Toxic behaviors in online multiplayer games: Prevalence, perception, risk factors of victimization, and psychological consequences. *Aggressive Behavior*, 48(3), 356-364.

<https://doi.org/10.1002/ab.22023>



## List of Games

BioWare (2017). *Mass Effect: Andromeda*. [Microsoft Windows; PlayStation 4; Xbox One].  
Electronic Arts

Blizzard Entertainment (2004). *World of Warcraft*. [Microsoft Windows, macOS]. Vivendi  
Universal

Blizzard Entertainment (2019). *Overwatch*. [PlayStation 4, Xbox One, Microsoft Windows,  
Nintendo Switch]. Activision Blizzard

Capcom (2016). *Resident Evil 6*. [PlayStation 3; Xbox 360; Microsoft Windows; PlayStation  
4; Xbox One; Nintendo Switch], Capcom

Ensemble Studios (1997). *Age of Empires*. [Microsoft Windows; macOS]. Microsoft

Id Software (2016). *Doom*. [Microsoft Windows; PlayStation 4; Xbox One; Nintendo  
Switch; Google Stadia]. Bethesda Softworks

Kojima Productions (2019). *Death Stranding* [PlayStation 4]. Sony Computer  
Entertainment

Mojang Studios (2011). *Minecraft* [Microsoft Windows, macOS, Linux]. Mojang AB

Naughty Dog (2013). *The Last of Us* [PlayStation 3; PlayStation 4; PlayStation 5; Microsoft  
Windows]. Sony Computer Entertainment

Nintendo EPD (2020). *Animal Crossing: New Horizons*. [Nintendo Switch]. Nintendo.

The Sims Studio (2009). *The Sims 3*. [Microsoft Windows; macOS; iOS; Android; Windows  
Phone; PlayStation 3; Xbox 360; Wii; Nintendo DS; Nintendo 3DS]. Electronic Arts

Treyarch (2010). *Call of Duty: Black Ops*. [PlayStation 3, Xbox 360, Microsoft Windows,  
Wii, Nintendo DS]. Activision

Ubisoft (2019). *Just Dance*. [PlayStation 4; Xbox 360; Xbox One; Wii; Wii U; Nintendo  
Switch] Ubisoft

Valve Corporation (2004). *Counter-Strike* [Microsoft Windows, macOS, Linux, Xbox].

Vivendi Universal, Microsoft Game Studios

Zynga. (2009). *Farmville*. [Android, Browser, iOS, Adobe Flash]. Zynga