

## **Beyond the Games**

Friendship formation in Multiplayer gaming environments

Student Name: Shannon van Zichem

Student Number: 616233

Supervisor: Leandro Borges Lima

Master Media Studies - Media & Creative Industries  
Erasmus School of History, Culture and Communication  
Erasmus University Rotterdam

Master's Thesis

*27 June 2024*

## ABSTRACT

The main goal of the research is to describe and understand the nature of relationship-building in online and offline gaming environments. Multiplayer games, which cover a variety of genres including first-person shooters, strategy games, sports, racing games, board and card games, casual games, and party games, allow players to communicate and contribute. These interactions develop a sense of community, regardless of whether the gaming session includes virtual warfare or traditional games such as Uno. Despite the many reasons for participating in these games, the shared delight of playing with or against others is a constant thread.

The purpose of this research is to find out how these gaming settings encourage social interactions and relationship creation. So, the following research question was formulated: How do multiplayer gaming environments facilitate social interaction and the formation of friendships? To answer this question, this study used a qualitative research approach, that is semi-structured in-depth interviews, to collect thorough personal experiences from gamers who have developed friendships in both online and offline multiplayer gaming environments.

This approach was chosen because of its ability to give deep, nuanced understanding into the participants' gaming experiences and the nature of their relationships with others. Data was gathered through interviews with a varied set of gamers covering many genres and gaming platforms. The participants discussed their experiences developing and keeping friendships in both online and offline multiplayer gaming environments. Following thematic analysis, several results were discovered. Multiplayer gaming settings promote social connectedness and the building of meaningful friendships. Participants pointed out the value of cooperation, collaboration, and shared experiences in forming strong ties. The game genre influences the dynamics of social relationships. Strategic and cooperative games, for instance, often require more communication and teamwork.

There are major differences between friendships made in offline and online gaming environments. Offline gaming, such as board and card games, often leads to in-person encounters, but online gaming provides a platform for global connection, allowing friendships to span great distances. Despite positive elements, issues such as trolling and

bullying were identified, indicating the need for more regulation of online interactions. The multiplayer feature of gaming settings provides several opportunities to form meaningful connections, improve social connectivity, and stimulate personal growth. These findings indicate that multiplayer gaming is an effective tool for encouraging social and personal development, with possibilities for its application in educational and business contexts.

**KEYWORDS:** *Multiplayer gaming, Friendships, social interaction, online gaming, offline gaming*

## Table of Contents

<b>ABSTRACT.....</b>	<b>2</b>
<b>1. Introduction.....</b>	<b>5</b>
1.2 Societal Relevance .....	5
1.3 Academic Relevance .....	6
1.4 Research Question .....	7
<b>2. Theoretical Framework .....</b>	<b>9</b>
2.1 Multiplayer Gaming .....	9
2.2 Types of Multiplayer Gaming Environments .....	10
2.2.1 Co-located Multiplayer Games.....	10
2.2.2 Online Multiplayer Games .....	12
2.3 Social interaction .....	15
2.4 Friendships.....	19
2.5 Social identity Theory.....	21
<b>3. Methodology .....</b>	<b>23</b>
3.1 Choice of method.....	23
3.2 Sampling.....	23
3.3 Operationalisation .....	24
3.4 Methods of Analysis.....	25
<b>4. Results.....</b>	<b>28</b>
4.1 Gaming environment and structure .....	28
4.2 Influence of Game Genre and Social Interaction .....	30
4.3 Formation and Maintenance of Friendships.....	33
4.4 Personal Growth .....	37
<b>5. Discussion &amp; Conclusion .....</b>	<b>41</b>
<i>Limitations of the Study .....</i>	<i>45</i>
<i>Suggestions for Future Research.....</i>	<i>46</i>
<b>References.....</b>	<b>Error! Bookmark not defined.</b>
<b>Appendix A: List of Interviewees .....</b>	<b>60</b>
<b>Appendix B: Coding Tree .....</b>	<b>62</b>

# 1. Introduction

The main purpose of this research is to describe and understand the dynamics of friendship formation within multiplayer gaming environments.

Multiplayer games are available in a variety of genres, such as first-person shooter games, strategic games, sports and racing games, board and card games, casual games, and party games. Multiplayer games provide a platform for players to interact and work together during gaming sessions (Manninen, 2003, p. 1). Whether it involves virtual rocket launcher battles or a round of Uno at home, the common thread is the sense of togetherness. While players may have diverse motivations for engaging in these games, the shared desire remains the enjoyment of playing with, or against, fellow individuals (Manninen, 2003, p. 1).

These games establish separate contexts in which people from different backgrounds may meet, connect, and build relationships.

## 1.2 Societal Relevance

Many people like multiplayer gaming for amusement, stress relief, and social interaction (Kowert & Oldmeadow, 2012, p. 15). Understanding the positive features of friendships created in gaming contexts might help educate individuals on the potential mental health advantages of socializing, especially for people who have difficulty making relationships in regular social situations. Furthermore, there is a growing amount of evidence suggesting psychologists use games as a therapeutic tool, demonstrating gaming's potential to play a positive role in mental health therapy. Certain therapeutic techniques, for example, use gaming to assist people build social skills, reduce anxiety, and encourage cooperation and communication in a controlled setting (Granic et al., 2014, p. 66).

In the United States, 97% of children and adolescents spend at least one hour every day playing video games (Granic et al., 2014, p. 66). The majority of psychologists' research regarding the consequences of gaming has concentrated on the negative aspects, such as possible damage from violence, addiction, and despair. We acknowledge the importance of this research, but we need a more balanced perspective that considers both the potential negative effects and the benefits of playing these games. This balanced viewpoint is particularly important because the nature of games has changed over the previous decade, becoming more complicated, diversified, realistic, and social in nature (Granic et al., 2014, p. 66).

Although very little research has focused on the advantages of playing video games, the functions and benefits of play in general have been examined for decades. Play's adaptive qualities have long been stressed in evolutionary psychology (Bjorklund & Pellegrini, 2010, p. 65), and some of the most recognized scientists in developmental psychology have focused on the positive role of play. Gilbertson et al. (1978) stated that play environments allow children to experiment with social experiences and mimic various emotional outcomes, resulting in emotions of satisfaction beyond the play context (p. 50).

Similarly, Piaget (1962) argued that make-believe play allows young people to simulate real-life problems, devise ideal remedies for their own enjoyment, and ease unpleasant emotions (p. 2). Both Piaget (1962) and Vygotsky (1978) proposed significant theoretical connections between play and numerous factors which encourage the development of social cognition (pp. 2, 66)

Furthermore, this research may provide useful information for legislators, educators, and technology developers looking to negotiate the junction of technology and human connections. Recognizing the social and therapeutic advantages of multiplayer gaming enables stakeholders to create more open and beneficial policies and programs that use gaming to encourage mental health and social integration. This might involve integrating gaming into educational curriculum and community initiatives, with the goal of fostering social relationships and improving mental health using interactive and engaging activities.

### **1.3 Academic Relevance**

Understanding the nature of relationships in gaming environments is important across academic fields. This research can help sociologists understand human relationships in the digital age. Sociological theories may be updated to address features of virtual socialization, such as how individuals develop and sustain friendships in online and offline gaming groups (Boyd & Ellison, 2007, p. 212; Wellman & Gulia, 1999, p. 333). While most research focuses on the internet, I also consider the offline domain. As a result, communication studies develop as a useful approach, bringing useful knowledge into the types of engagement that foster relationship creation in various online games (Steinkuehler & Duncan, 2008, p. 887). By analyzing the formation of friendships in both online and offline gaming, we open the door to examining a wide range of social interactions.

This diversity ranges from virtual interaction in online multiplayer games to face-to-face interactions in traditional offline gaming, providing an in-depth understanding of how social connections develop in many different kinds of situations, which is useful for gaming research.

Game studies regarding friendship and social interaction have demonstrated that online gaming environments can encourage important social interactions and the building of meaningful relationships (Cole & Griffiths, 2007, p. 575; Kowert & Oldmeadow, 2012, p. 15). These findings show the necessity of addressing both the positive and negative effects of gaming on social skills and reputation. Understanding how gaming may be used to improve social skills and reduce social anxiety has important implications for therapeutic approaches (Ducheneaut & Moore, 2005, p 89).

This research fits into the larger scientific framework by adding to our understanding of how multiplayer gaming environments influence social interactions and friendships. This research gives an in-depth understanding of social dynamics in gaming environments by combining viewpoints from sociology, communication studies, and psychology. It points out the need for a balanced approach to gaming, taking into account both the possible negative and beneficial consequences (Granic et al., 2014, p. 66). This comprehensive method contributes to the updating and expansion of current ideas in game studies, providing new perspectives on the role of multiplayer gaming in creating social ties and personal growth.

#### **1.4 Research Question**

The main research question that will lead the research is: How do multiplayer gaming environments facilitate social interaction and the formation of friendships?

To answer this research question, the following sub-question was formulated:.

Sub-question 1: What are multiplayer gaming environments?

Sub-question 2: How does the type of game genre influence the dynamics of social interaction and friendship?

We will use a qualitative approach to answer the research question and sub-questions: semi-structured, in-depth interviews with gamers who formed friendships while playing online and offline multiplayer games. The rest of the thesis is divided into four chapters. Chapter two analyzes the relevant literature on multiplayer gaming and social interaction, which will evaluate prior studies and theories on social interaction in gaming,

covering frameworks such as social identity theory, theories of social interaction, and community development. Chapter Three describes the study's methodology, including the research design and data gathering techniques to answer the research question. Chapter four delves into the research conclusions, emphasizing the findings. Lastly, Chapter five scrutinizes the results, connects them to the current literature, summarizes the key findings, and explores their implications for comprehending social interaction in multiplayer gaming environments.



## 2. Theoretical Framework

This chapter consists of five sections that each contribute to the theoretical foundation of this research. The first section looks into the theory of multiplayer gaming, giving an outline of its development and relevance. The second section is separated into two sections: co-located settings (offline gaming) and online environments, with a focus on each's unique features. The third portion delves into social interaction in both offline and online gaming environments, analyzing the nature of interactions and the establishment of social relationships. The fourth section concentrates on the formation and maintenance of friendships within gaming environments. Finally, the final section looks at Social Identity Theory (SIT), which analyses how group dynamics and social identities emerge in multiplayer gaming situations.

### 2.1 Multiplayer Gaming

"Let's play!" This simple phrase resonates across countless gatherings daily as individuals come together with the shared purpose of gaming.

It is fundamental define "games" and how they differ from other media (such as books, television, and movies). The most essential distinguishing feature of games is their interactivity; players cannot passively surrender to a game's storyline. Instead, video games are designed for players to actively engage with their systems and for these systems to, in turn, react to players' agentic behaviors (Granic et al., 2014, p. 66).

Gaming environments can manifest either offline or online, both serving as wellsprings of joy and amusement for participants (Chang et al., 2021, p. 3508). Johan Huizinga (1951) offers a broad insight, defining play as a liberating and absorbing activity distinct from the routine of everyday life (p. 40). He underscores its voluntary nature and the presence of rules, delineating the space and experience unique to play. Building upon this concept, Chandrasekaran et al. (2004) elaborate on the notion of 'game,' defining it as a structured system where players engage in artificial conflict guided by rules, leading to a measurable outcome (p. 6). This systematic definition lays the groundwork for comprehending games within a structured framework. According to Gilbertson et al. (1978), play includes a wide range of activities marked by freedom, voluntariness, and enjoyment (p. 50). Play typically occurs within certain boundaries, such as time and place. Gaming, on the other hand, is similar to playing but includes a set of rules. The fun and excitement of gaming often come from following and mastering these rules. In this study,

we will use the terms playing and gaming interchangeably to add variety, but we mean gaming. Playing and gaming have always been part of human social life. Many popular games today, like chess, card games, and sports, have origins that go back hundreds or even thousands of years (Huizinga, 1951, p. 40). The social aspect of games stems from the fact that many are played by multiple participants, often in groups or teams. Additionally, popular games like football, bridge, and golf are surrounded by rich discussions and social interactions. Although many games can be played alone, gaming generally has a strong social aspect. Johan Huizinga (1951) observed that gaming creates social groups that often keep to themselves and stand out from everyday life by using costumes or other forms of disguise (p. 13). This emphasis on community makes gaming an interesting area to study from a communication standpoint. Players often need to communicate to understand the game, assess situations, or coordinate actions. Besides task-oriented communication, there's also a need for social interaction among gamers. This can include motivating teammates or consoling others after a loss (Siitonen, 2007, p. 8).

Multiplayer gaming environments include digital areas and in-home environments, in which many people can connect and participate with one another. The phrase "multiplayer" refers to the simultaneous participation of many individuals, either collaboratively or competitively, in the same game environment. Participating in multiplayer games provides an exciting opportunity for people to meet and form connections (Lin & Sun, 2011, p. ).

While there are myriad genres and styles, the most notable differentiation among multiplayer games lies in whether they are played offline or online. The literature usually divides multiplayer games into six different configurations: competitive, cooperative, and team-based games, each of which can be either co-located or online multiplayer.

## **2.2 Types of Multiplayer Gaming Environments**

### ***2.2.1 Co-located Multiplayer Games***

Games, with their diverse themes and objectives, can be played cooperatively or competitively, either alone, with co-located friends, or alongside thousands of online players, spanning various devices from consoles (e.g., Nintendo Wii, Playstation) to computers and cell phones (Granic et al., 2014, p. 67). Co-located multiplayer gaming, where friends physically gather in the same location to play games together, is a

cornerstone of gaming culture and social interaction. Traditionally, tabletop gaming involved face-to-face interactions with physical game pieces like boards and cards, predominantly in home environments during family gatherings. However, Konieczny (2019) notes a shift in this trend, with tabletop gaming now increasingly occurring in public places such as cafes and clubs (p. 14). This shift encourages individuals from diverse backgrounds to join in, fostering interaction and socialization even among strangers. Local cafes and clubs are experiencing a resurgence due to tabletop gaming, revitalizing these spaces as lively hubs where people gather not only to play games but also to chat and forge friendships (Konieczny, 2019, p. 14). Konieczny (2019) further emphasizes the distinctness of tabletop gaming from traditional hobbies like chess or family games, noting that tabletop gamers value games that involve strategic decision-making and meaningful outcomes, contrasting with perceptions that such games are merely for entertainment (p. 14). Tabletop gaming communities have limited overlap with traditional games like chess, bridge, poker, and mahjong, preferring genres like euro games, collectible card games (CCGs), war games, and role-playing games (Konieczny, 2019, p. 14). This history of tabletop gaming corresponds to the growth of technology, which introduced video games in the late 1950s (De Souza E Silva, 2008, p. 404).

The concept of multiplayer gaming dates back to the 1950s and 1960s. Early examples like "Spacewar!" (1962) featured two-player competition on shared screens.

The following arcade age of the 1970s and 1980s popularized multiplayer gaming with titles such as "Pong" and "Street Fighter", encouraging local multiplayer experiences (Manninen, 2003, p. 4). The introduction of home gaming consoles in the 1980s introduced multiplayer gaming into living rooms, with titles such as "Super Mario Bros." (1985) and "GoldenEye 007" featuring split-screen multiplayer options (Manninen, 2003, p. 4). Consalvo (2016) investigates "tandem play," in which many people participate in single-player games at the same time, each with their own motive (p. ). This cooperative spirit extends to "couch co-op" mode, where players share a console in the same room, taking turns, chatting, and supporting each other (Consalvo, 2016, p ). Research indicates that co-located gaming enhances enjoyment and perceived skill compared to online or solitary play (Gajadhar et al., 2008, p. 171; Schmierbach et al., 2012, p. 615). Cooperative gameplay can also promote kindness and positive behaviors post-game (Breuer et al., 2017, p. 25; Ewoldsen et al., 2012, p. 278) with some studies suggesting lasting effects on real-life

interactions (Greitemeyer & Mügge, 2014, p. 582). Some co-located games integrate real-world locations and digital technology, allowing players to interact physically while the game tracks their movements through GPS or digital interfaces (Leorke, 2019, p. 132 ). This blending of virtual gaming with real-world actions aims to integrate digital gaming into everyday public spaces, transforming them into interactive playgrounds where players engage with their surroundings (Leorke, 2019, p. 138 ). According to Frank Lantz (2007, p. 262), "the city becomes the game's playground," as exemplified by PacManhattan (2004), which turned the streets of Manhattan into a live version of Pac-Man. This approach sparks debates about how these games influence perceptions of people and places, with proponents highlighting opportunities for fun interactions and new connections while critics express concerns about the commodification of public spaces and the superficiality of human interactions within gamified environments (Leorke, 2018, p 138).

### *2.2.2 Online Multiplayer Games*

Today, millions of people worldwide play online multiplayer games that encourage both cooperation and competition. Many gamers become part of the various social networks within these games (Siitonen, 2007, p. 12). These online multiplayer games continue the tradition of social interaction. They require multiple players to function correctly and offer new opportunities for communication. Unlike physical spaces, these games can host thousands or even tens of thousands of players simultaneously. Additionally, they leverage computer networks to connect people from different continents in the same virtual space (Siitonen, 2007, p. 12).

Digital games have become very popular due to recent advancements in technology. They used to be played in the same place, but now they are played by many people together on social platforms (Herodotou, 2009, p 267). Over the past ten years, computer games have become extremely common, ranging from simple text-based games to complex 3D graphic virtual worlds. These include various genres such as first-person shooters, strategy games, and online multiplayer games. The internet and improved technology have significantly transformed gaming over the past 25 years, making it a more social activity (Herodotou, 2009, p. 267). According to Statista, the global online gaming market was valued at over \$21 billion in 2020 and is expected to grow significantly in the

coming years, illustrating the increasing prevalence and popularity of online games (Statista, 2021).

The most famous computer games from the 1950s and 1960s, like SpaceWar! and Pong, were mainly multiplayer due to the limited computing power of the time. Early computers could barely handle the graphics, so humans had to act as players while the computer ran the game. Pong was a two-player game, but there were more ambitious games like Empire, a strategy game on the PLATO system that could support up to 32 players (Demaria & Wilson, 2002, pp. 304-305). Many early computer games, such as SpaceWar!, were also early examples of online gaming (Kirriemuir, 2006, p. 23). Despite their early start, online multiplayer games didn't dominate the gaming scene for several decades. In the 1970s and 1980s, improved computing power allowed computers to control opponents, leading to a rise in single-player games. From the late 1970s to the mid-1990s, single-player games became increasingly popular on home computers and consoles. While there were multiplayer games during this period, they typically required players to be in the same room and didn't use communication networks (Siitonen, 2007, p. 13). For most people buying their games from local stores, online gaming is just a distant dream. However, a small group with access to computer networks enjoyed online games, thanks to the development of modem technology, despite its limited bandwidth. Games like LORD (Legend of the Red Dragon) operated within Bulletin Board Systems (BBS) and had simple, text-based interfaces. The most notable of these were text-based virtual worlds known as MUDs (Multiple User Dungeon/Dimension/Domain). As Pavel Curtis described, a MUD is a "network-accessible, multiparticipant, user-extensible virtual reality whose user interface is entirely textual" (Curtis, 1997, p. 125). In a typical MUD, players control characters called avatars and advance in the game by interacting with the game world and other players. The goal is often to strengthen one's character, unlocking new possibilities in the game. MUDs originated in the late 1970s and gained a steady player base over the following decades. Most MUDs were, and many still are, free to play, often supported by donations or academic institutions. Throughout the 1990s, game developers closely followed advances in computer network technology. Games like Doom (1993) used these networks for distribution and enhanced gameplay, allowing a small number of players to compete against each other. Faster connection speeds and better computer capabilities enabled larger groups of players from different locations to play together. By the late 1990s, more

commercial multiplayer titles were released, marking the true beginning of the online gaming era (Siitonen, 2007, p. 12).

With the advancements in the Internet and wireless communication, more people are playing games together on computers. Nowadays, most computer games that are sold include a way for people to play together (Smed et al., 2002, p. 246). Also, websites where you can play games online, like Electronic Arts' Ultima Online, Blizzard Entertainment's Battle.net, or Microsoft's MSN Gaming Zone, have hundreds of thousands of users. New game consoles that come out are also focusing a lot on online gaming (Smed et al., 2002, p. 246). There's also a new type of entertainment for phones and tablets where people can play games together wirelessly (Smed et al., 2002, p. 264). The widespread use of the internet in the 1990s transformed the way people played games together. It made it possible for people all over the world to play games like "Ultima Online" (1997) and "Quake" (1996) (Smed et al., 2002, p. 264).

Another important genre is that of Massively Multi-User Online Games (MMOGs). In these games, players have different tasks to do, and they need different skills to complete them (Cole & Griffiths, 2007, p. 575). Examples of these games are World of Warcraft, Final Fantasy, and Xbox Live. People talk and spend a lot of time with other players when they play MMOGs. Sometimes, these friendships continue outside the game (Cole & Griffiths, 2007, p. 575).

Massively Multiplayer Online Games, or MMOGs, are the largest online games available. They are like modern versions of MUDs, where players control characters (avatars) in a detailed virtual world (Curtis, 1997, p. 123). Players explore this world and complete missions to improve their avatars' skills. As their characters get stronger, players can access more areas and activities in the game. The "massively" part refers to the fact that thousands of players can be involved at the same time. Like MUDs, MMOGs have a strong social aspect, often encouraging or requiring players to interact with each other. It's usually impossible to reach the highest levels of the game without cooperating with other players (Curtis, 1997, p. 125). Creating and maintaining these complex virtual worlds is expensive, so most MMOGs are commercial. Players might have to buy the game, pay monthly fees, or spend real money on virtual items. Some games are also funded by selling advertising space. MMOGs don't have clear win or lose conditions, and they can go on indefinitely. Because of this, they don't fit the traditional definition of a game. That's why

people who play MMOGs are often called "users" instead of "gamers" or "players" (Filiciak, 2006, p. 6). MMORPGs have features that encourage players to team up with others to complete tough tasks or quests that can't be done alone. These features include creating social groups called guilds. A guild is a collection of players who regularly play games together. They collaborate to make tasks easier and more enjoyable, while also creating a friendly environment. The community in MMORPGs is just like the real world—dynamic and complicated. In a typical group, players have different roles, like attacking enemies, supporting teammates, and protecting the group. A successful group needs a good balance of roles and players who work well together. Players make friends and build trust based on their characters' abilities, actions, and relationships with others (Dickey, 2007, p. 313). Lee et al. (2015) compared playing MMOGs to being in a boot camp, where players must work together to succeed (p. 171). If they fail, they lose a lot of effort. Making friends in MMOGs is different from making friends online or offline because of the game's unique challenges and pressure.

Contemporary online multiplayer computer games vary widely. Some are single-player games that have an added multiplayer option, while others are designed for multiple players from the start. These games can be for a few players or require hundreds of players to function well. Some games allow for quick sessions, while others need long periods to be truly enjoyable. Despite the differences, there are common elements in online multiplayer games. First, they must have two or more human players who are not controlled by the computer. Most follow a format of either two teams, multiple individual players, or multiple teams (Aarseth et al., 2003, p. 2). Second, being online means the game needs a network connection to work as intended. This usually means using the Internet, but it's not always necessary. Players might set up their own networks, like at LAN parties, or use a company's local network to play games after work. Understanding the difference between offline and online gaming is crucial to grasping how social interaction and friendships develop during multiplayer games.

### **2.3 Social interaction**

Humans naturally seek connection with others and avoid feeling left out (Leary, 2015, p. 2). Social interaction involves exchanging social actions and reactions among individuals, groups, or within oneself, with varying degrees of intensity, from isolated to

interactive settings (Fonseca et al., 2022, p. 2). Social interaction can be categorized into focused, where individuals share common goals (e.g., students studying together), and unfocused, where interactions lack specific goals (e.g., pedestrians following traffic rules). These interactions can occur face-to-face or through digital communication using technology, utilizing symbols like pictures or words to convey meaning (Fonseca et al., 2022, p. 2).

Sennett (1976) discusses how people often adopt roles even in casual conversations, promoting politeness and friendliness, especially with unfamiliar individuals (p. 10). He argues that historical social norms maintained a respectful distance, contrasting with contemporary emphasis on work and self-expression, which inhibit relaxation and fun, leading to a preference for home-based or selective interactions (Sennett, 1976, p. 10).

On the other hand, de Souza e Silva (2008) suggests that location-based games integrate real-world settings with virtual technologies, transforming familiar places into dynamic, engaging environments that facilitate connections among strangers via mobile devices. This integration is believed to foster enjoyable interactions and connectivity (de Souza e Silva, 2008, p. 404).

One of the most important functions of games is to enable social interaction (Kiesler et al., 2000, p. 121). Board games, with a history tracing back to ancient times, hold a ubiquitous presence in the human experience (Kurke, 1999, p. 78). Embedded within various cultures, board games contribute to the development of personality traits during formative years (Bar & Otterbring, 2021, p. 104). They serve as a popular avenue for spending leisure time with friends and family, offering an entertaining means to socialize and connect in person (Woods, 2012). This is something that Konieczny (2019) noticed while watching people play tabletop games: they create social connections, like friendships. This fits with what experts say about social capital, which is about forming connections, trust, and helping each other (Konieczny, 2019, p. 14).

“When new players join a group, they join a network of friends and acquaintances. They often introduce themselves and share contact information. They show they belong by talking about games and other geeky stuff, such as video games, comics, and fantasy books. After a while, new players become regulars, like actors in a play. They join in the group's conversations and activities. Many players say most of their friends are other gamers they have met at game events. Being part of a group goes hand in hand with trusting each other.



Players show trust by inviting new friends to their homes for game nights or asking them to watch their stuff for a bit. All of these connections, trust, and shared interests lead to sympathy among players. They feel positively towards each other and are willing to help. Even if there are disagreements, the atmosphere in a gaming group is usually friendly and respectful” (Koniexzny, 2019, p. 12).

The social aspect plays a significant role in the success of a game (Bankov, 2019, p. 200). When people discuss a game more, it's more likely to attract new players. While single-player games were popular before the widespread use of the Internet, the rise of online communication platforms like Internet Relay Chat (IRC) in the 1980s and Instant Messaging (IM) in the 1990s changed the landscape (Bankov, 2019, p. 200). Multiplayer games took social interaction to new heights. For example, in 2004, Lineage 2 became one of the first games to integrate with instant messaging software like MSN Messenger, allowing players to chat with friends outside the game while playing (Bankov, 2019, p. 200). As the gaming industry expands, games become more popular, richer in content, and more challenging, highlighting the need for better communication. In summary, gaming has become increasingly social, with younger generations purchasing games on digital platforms, spending money on in-game purchases, or supporting their favorite online personalities. Social interactions have evolved from face-to-face conversations to instant messaging and voice/video chats (Bankov, 2019, p. 200).

In digital location-based games (LBGs), players use technology to explore the real world and interact with it. These games mix digital and physical environments in a fun and serious way. They can help tackle important issues in society by bringing together the imaginary and real worlds. In these games, meaningful interactions can help people understand and accept differences, as well as strengthen communities. This can make players feel more connected to their local area and help improve relationships among people living there (Fonseca et al., 2022, p. 2).

“When people play games together in the same place, they usually focus more on the screen than on each other. But being with others in the same place can still make the game experience better. Compared to playing games online, playing together in the same place can make people feel more connected to each other. This can make the game more enjoyable in certain situations. Also, people playing together in the same place often feel more involved, focused, confident, and happy, and less stressed” (Koniexzny, 2019, p. 14).

Understanding how players experience games together in the same place with audience participation is important (Chandrasekaran et al., 2004, p. 7). When people play games together in the same place, it creates social interactions (Kappen et al., 2014). Players, the audience, and how experienced they are all have an impact on how the game is played. Some games are designed to be played by people of different ages and skill levels together. Previous research has examined games played in the same location, audience influence, and how players feel about the experience. For example, there was a game called iGamefloor where kids played together and moved around. However, not much research has looked at how different types of audiences affect the game (Chandrasekaran et al., 2004, p. 7). People can interact with games in different ways. Some just watch, while others actively participate and change the game. New ways of playing games involve using body movements and interacting with others. Games are not just played at home anymore; they're also played in public places like tournaments. Some games even include exercise as part of their gameplay. Research has shown that moving your body while playing a game can make the experience more intense (Chandrasekaran et al., 2004, p. 7). Adding interactive displays to things like basketball hoops can also make games more fun and bring people together. Some studies have looked at how playing games with others in person can be awkward but still enjoyable (Kappen et al., 2014, p. 21).

In video games, players usually interact with the game itself or with other players online. But playing games together in person or online can be very different (Kappen et al., 2014, p. 21). In public spaces, anyone can join in and play, which changes how the game is played. When games are played in public, things like where you are and who's watching can affect how the game feels (Kappen et al., 2014, p. 21). Players feel more engaged when they can interact with others while playing. Body movements are also important for making games feel more real. Games that use things like motion sensors can be more immersive. The emotions players show while playing can also change how the game feels. When people play games together in the same place, it creates a different atmosphere. Gestures and interactions between players and the audience can make the game more fun and lively (Kappen et al., 2014, p. 21). Many of the best-selling games focus on multiplayer features. Some games, like Wii Sports or Just Dance, are played in front of an audience. In these games, the interaction between players and the audience affects how the game is played and enjoyed by everyone (Kappen et al., 2014, p. 21).

Manninen (2003) discusses how cooperative and competitive dynamics within multiplayer gaming genres shape social interactions (p. 2). Cooperative games foster collaboration and teamwork, building strong bonds among players, while competitive games emphasize competition and skill mastery, leading to intense rivalries and friendly competition.

Role-playing game genres, such as MMORPGs, offer additional opportunities for social interaction and relationship-building through immersive storytelling and collaborative gameplay experiences (Manninen, 2003, p. 2). Additionally, looking at online games, they provide social accommodators that support social interactions, such as reducing the pressure of direct socialization and guiding the content of conversations through the shared activity within the game. This communicative flexibility enhances social interactions and relationships among players (Kowert & Oldmeadow, 2012, p. 15). Furthermore, emotionally sensitive individuals, such as shy players, benefit from online gaming spaces, which help them overcome traditional social difficulties and form new friendships. Online games offer a socially advantageous platform for shy individuals, facilitating the expansion of their in-game friendship networks (Kowert & Oldmeadow, 2012, p. 15).

## **2.4 Friendships**

Friendship is fundamentally about caring for two or more people. Research suggests that friendships among non-family members may vary in quantity (Kowert & Oldmeadow, 2012, p. 16). Typically, friendships refer to relationships with individuals who are not family, ranging from long-term connections to acquaintances. They are essential for both physical and mental health, providing crucial support (Kowert & Oldmeadow, 2012, p. 16). Lack of friends can lead to loneliness, worsen mental health, and increase the risk of premature death (Kowert & Oldmeadow, 2012, p. 16). Steinkuehler and Duncan (2008) found that friendships lack a clear scientific definition and are perceived differently (p. 287). According to Smith and Mackie (2007, p. 405), a close relationship involves not just feeling good but being deeply connected and relying on each other in various aspects of life. Additionally, people perceive and describe 'friendship' differently, using it to refer to non-familial relationships, long-term connections, and acquaintances (Fischer, 1982, p. 20).

Konieczny (2019) notes that tabletop gamers often form personal connections within their community, although these connections often remain weak ties. However,

exceptions exist, with some gamers developing enduring friendships and even romantic relationships through gaming (p. 15). The author personally witnessed two weddings of couples who met during gaming sessions in the United States. Furthermore, gaming groups in Korea have organized events to raise funds for charitable purposes, with discussions during gaming sessions prompting participants to consider joining NGOs or participating in social movements like parades or protests. Konieczny (2019) suggests that tabletop gaming can generate social capital comparable to traditional settings such as Putnam's "proverbial bowling alley," potentially surpassing less social video game environments (p. 15). Over the past three decades, the gaming industry has rapidly expanded, with major companies gaining numerous fans through constant advancements in game technology. Bankov (2019) points out that social media platforms like Discord and Twitch have become vital for gaming communities, offering modern avenues for online interaction and communication (p. 204).

Kowert and Oldmeadow (2012) observe that emotionally sensitive individuals utilize online gaming spaces differently (p. 16). Those with high emotional sensitivity (ES) often use these platforms effectively to expand their social circles. For shy individuals with fewer social connections, online gaming could be essential for meeting new people and integrating them into their offline lives. Furthermore, emotionally sensitive users utilize online gaming to support existing friendships by involving them in the gaming environment, relying on these spaces to sustain offline relationships due to their social flexibility and accommodation.

Manninen (2003) emphasizes that friendships can be strengthened through shared experiences in multiplayer games, where collaborative gameplay and shared goals facilitate bonds among players (p. 1). Gaming communities, clans, and social structures play a crucial role in providing belonging, shared interests, and opportunities for players to connect and build relationships with like-minded individuals. The concept of "community" in online social networks created by computer-mediated communication (CMC) presents both opportunities and challenges. Online multiplayer gamers engage extensively in communication, sharing information and ideas, and forming friendships and networks. However, not every group of players qualifies as a community; many come together temporarily to achieve specific goals. Thus, claiming that such interactions define multiplayer communities may overstate their significance (Hand & Moore, 2006, p. 183;

Jones, 1999, p. 12). While communication is critical for community formation, it does not guarantee its existence. Similarly, common interests or similarities do not always lead to community formation, even though shared values, beliefs, or qualities are integral to the concept of community. Howard Rheingold's book "The Virtual Community: Homesteading on the Electronic Frontier" Gilbertson et al. (1978) popularized the term "virtual community" in the early 1990s (p, 50). Rheingold defined virtual communities as social groups that emerge online through prolonged public discussions, fostering personal relationships in cyberspace (Rheingold, 1993, p. 114).

As explored in the literature, the term "community" holds unique significance, encompassing qualities such as continuous social interaction among members, which fosters sociability, support, and a sense of belonging (Rheingold, 1993, p. 114). Furthermore, communities are characterized by the development of shared symbolic realities through communication, highlighting their processual (Rheingold, 1993, p. 114). This shared symbolic reality not only facilitates communal identity formation but also underscores the importance of social networks within communities. From a social network perspective, the existence of ties—whether strong, weak, or potential—among members forms the foundational structure of any community (Beniger, 1986, p. 3). Moreover, the permeability of community boundaries allows for fluid membership dynamics, accommodating diverse forms of social interaction and connection (Beniger, 1986, p. 3). This perspective challenges rigid community definitions while emphasizing the essential role of social networks in sustaining community coherence and membership. This integrated view demonstrates the interwoven concepts of friendships and communities, which shape social interactions and identities across various contexts, as they evolve within technological and social frameworks.

## **2.5 Social identity Theory**

Social identity theory offers a framework for understanding how individuals perceive themselves within the groups they belong to (Stets & Burke, 2000, p. 225). Developed to explain intergroup behavior, the theory posits that group membership shapes self-concept and influences behavior towards others (Stets & Burke, 2000, p. 225). At its core, it underscores the significance of group affiliation in defining personal identity and shaping social interactions (McKeown et al., 2016, p. 15).

Groups, whether large ethnic communities or small project teams, provide individuals with a sense of belonging and identity within society (McKeown et al., 2016, p. 15). This belongingness goes beyond mere association and influences attitudes and behaviors towards others. Social identity theory examines why individuals often adopt a collective identity ("we" instead of "I") and how this affects perceptions and actions towards in-group versus out-group members (Stets & Burke, 2000, p. 225).

The theory is structured around three key aspects: psychological processes, social identification, and socio-structural characteristics (Lo et al., 200, p. 5). Psychological processes involve social categorization and comparison, where individuals highlight similarities within their group and differences with other groups (Lo et al., 2005, p. 5). Social identification emphasizes the emotional attachment individuals feel towards their group identity, akin to personal possessions or affiliations (Lo et al., 2005, p. 5)

Identity management strategies illustrate how individuals enhance their group's status, whether through individual mobility, social creativity, or collective competition (Lo et al., 2005, p. 5) These strategies are influenced by socio-structural characteristics such as group boundary permeability, stability of group status, and the perceived legitimacy of social hierarchies (Lo et al., 2005, p. 5)

In online multiplayer gaming communities, social identity theory provides insights into how players form friendships based on shared interests and experiences (Eklund & Román, 2017). These friendships provide social support, enhancing players' well-being and emotional connection within virtual environments (Halbrook et al., 2019, p. 1104).

While quantitative studies dominate research on multiplayer games, qualitative approaches are essential for capturing the nuanced experiences and subjective meanings players attach to their gaming identities and friendships, just like Halbrook et al. (2019) with their research on how science fiction fans form and maintain identities within their community, shedding light on how shared interests and values contribute to social identity and group cohesion (p. 1104). By exploring these dimensions qualitatively, researchers can uncover the intricate dynamics of social identity and friendship formation in both online and offline gaming communities.

### **3. Methodology**

This chapter describes the methods used in the study. Section 3.1 discusses the justifications of the method used. Section 3.2 describes the sample criteria used in the research. Section 3.3 focuses on the operationalization of variables. Finally, Section 3.4 wraps up the methodological discussion by explaining the data collecting and analysis technique.

#### **3.1 Choice of method**

The research being conducted intends to investigate the dynamics of friendship formation within multiplayer gaming environments. To achieve this, a qualitative research design will be used, using interviews and thematic analysis as the key tools. Qualitative approaches, like interviews, are thought to offer a more profound insight into social phenomena compared to purely quantitative methods, such as questionnaires (Coleman & Dyer-Witheford, 2007, p. 934). The goal is not to achieve statistical representation but to gather comprehensive qualitative data. To find the answer to the research question: *How does gaming facilitate social interaction and the formation of friendships?* Semi-structured interviews will be conducted with participants who have experience forming friendships within multiplayer gaming environments. The semi-structured format allows for a balance between predetermined questions and the flexibility to explore emergent themes (Coleman & Dyer-Witheford, 2007, p. 934). Open-ended questions will be designed to encourage participants to share their experiences, insights, and perceptions related to the research question. The choice of interviews is justified by their ability to provide in-depth and rich data on the subjective experiences of individuals. This method allows for a nuanced understanding of the social dynamics, motivations, and challenges associated with forming friendships in multiplayer gaming settings.

#### **3.2 Sampling**

Participants in this study were selected based on how well they had formed connections in multiplayer gaming settings and the duration of their involvement in multiplayer gaming, for a better analysis. This criterion ensured that individuals had firsthand experience in forming and maintaining friendships through gaming interactions. There was a wide range of people in the sample in terms of gender and preferred video games. Six of the participants were men and four were women. Variation in video game preferences was considered to ensure a broad spectrum of gaming experiences.

Participants were selected based on their preferences for different types of games (e.g., MMOs, FPS, strategy games, board games, card games, etc.), reflecting the diverse landscape of online and offline multigaming.

Since purposive sampling is the most efficient technique for this kind of selection, it was used to choose individuals who had firsthand experience making friends through gaming. This strategy speeds up data gathering by enabling researchers to customize the sample to the particular topics they want to study (Cole & Griffiths, 2007, p. 575). This approach is perfect for gathering the subtle insights required to fully answer the study topic. Using one's own relationships inside gaming groups was part of the sampling approach. The researcher made contact with people who were known to have made friends through multiplayer video games in order to build rapport and encourage discussion.

Finding players was simpler than I had anticipated because to my extensive gaming network. Ultimately, using a technique known as snowball sampling, participants from the original recruitment who came via gaming groups and their personal networks—many of them recommended others who had comparable experiences. Five of the ten respondents that took part in the study were reached via direct messaging during the first recruitment phase, and the remaining amount via snowballing. We conducted interviews in both English and Dutch as needed to ensure precision and participant comfort, thereby enhancing the depth of the analysis.

### **3.3 Operationalisation**

The interviews were semi-structured because they focused specifically on how friendships form through multiplayer gaming. An interview guide with a list of questions and prompts was used to keep the interviews focused but still allow for a flexible and conversational flow.

The interviews started with personal stories about the participants' experiences in multiplayer gaming. Key questions included how long they have been involved in these environments and what initially attracted them. This part aimed to understand their gaming history and motivations. Their gaming experience was measured by the frequency and duration of their multiplayer game play. Social interaction in gaming was defined as the range and depth of interactions with others during gameplay. This included how often and in what ways they communicate, collaborate, and compete with other gamers. Questions



focused on how players connect with others, like building alliances, chatting in-game, or playing together.

Friendship was defined as relationships with non-family members, from long-term friends to casual acquaintances. Friendships are important for both physical and mental health, providing crucial support. Evidence of meaningful and lasting friendships formed through gaming was sought, including stories of supportive interactions and shared experiences that strengthen these bonds over time. Strategies for maintaining these friendships outside of gaming sessions were also explored.

Social Identity Theory (SIT) was applied to understand how individuals see themselves within gaming groups. SIT suggests that being part of a group influences self-concept and behavior, shaping roles like leadership and cooperation within teams. Participants were asked about their experiences of forming their identity within gaming groups and how belonging to these groups affects their self-perception and behavior both in-game and in real life.

### **3.4 Methods of Analysis**

The analysis will utilize a thematic approach to identify and interpret recurring patterns and themes within the qualitative data. Thematic analysis, as outlined by Braun and Clarke (2006), is a flexible method for identifying, analyzing, and reporting patterns within qualitative data. For the data collection, the interviews were recorded and then transcribed using the site dovetail.com. The analysis made use of a thematic approach to identify and interpret recurring patterns and themes within the qualitative data. As highlighted by Braun and Clarke (2006), thematic analysis offers a flexible method for identifying, analyzing, and reporting patterns within qualitative data (p. 77). The thematic analysis involved the following steps according to Berger (2000). Firstly, immersion in the data by reading and re-reading, accompanied by writing down initial ideas. Next, I generated the initial codes, systematically categorizing all the data. Once I have coded all the data, I combine similar or related codes into larger categories, thereby initiating the initial themes. Lastly, I revise and improve the themes by refining each one and developing a clear definition of what each theme pertains to, ensuring that I have not missed any relevant data snippets. Finally it was time for the finalization of themes and interpretation of the findings.

The table below gives an overview of the important themes and patterns

discovered through thematic analysis of the interview data. It contains the major themes, sub-themes, and instructive instances or descriptions from the data. This organized presentation facilitates the straightforward communication of the analysis's findings and ideas.

Main Theme	Sub-Themes	Description/Example
<b>Gaming Environment and Structure</b>	- Evolution of Multiplayer Gaming	Participants described how their gaming habits evolved from local to online environments. Example: "In the past, there was couch co-op... now, someone is in a completely different country."
	- Socioeconomic Influence	Differences in gaming experiences based on socioeconomic backgrounds. Example: "Those from wealthy families had access to the latest gaming consoles."
<b>Influence of Game Genre and Social Interaction</b>	- Cooperative vs. Competitive Games	How different genres encourage various social dynamics. Example: "Cooperative games like MMORPGs foster teamwork and collaboration."
	- Impact on Children	Influence of specific game genres on younger players. Example: "Fortnite can consume much of their time and affect their speech and behavior."
<b>Social Interaction</b>	-Communication Methods	Ways players interact during gameplay. Example: "Players use headsets to talk to each other, even if they're in different countries."
	- Memorable Social Interactions	Significant experiences of forming friendships. Example: "In a game, after everyone is dead, we just talk and end up sharing our life stories."
<b>Friendship Formation</b>	- Development and Maintenance	How friendships are formed and maintained through gaming. Example: "Playing FIFA with

		a friend taught me that a team is only as strong as its weakest link."
	- Comparison of Offline and - Online Friendships	Differences in friendships formed in offline vs. online settings. Example: "Offline gaming is more common on weekends, while online gaming is preferred during the week at night."
<b>Social Identity</b>	- Identity Influence	Impact of gaming on self-concept and identity. Example: "How do multiplayer gaming environments affect how you see yourself or your identity?"
	- Identity Conflicts	Challenges related to identity within gaming environments. Example: Participants discussed conflicts and how gaming influenced their sense of belonging.

## **4. Results**

The main research question that will guide the research is: How do multiplayer gaming environments facilitate social interaction and the formation of friendships?

After finishing the coding process of the interviews, four main themes have been identified to address this question. We present each theme in a separate subsection, bolstering the arguments with evidence from the interviews. The four themes are; Gaming environment and structure, influence of game genre and social interaction, formation and maintenance of friendship and personal growth.

### **4.1 Gaming environment and structure**

The first theme delves into the diverse gaming environments the interviewees have experienced and how their multi-gaming activities have evolved over time. The term "multiplayer" signifies the involvement of more than one individual simultaneously, either collaboratively or competitively, within the same gaming environment.

The attraction to multiplayer gaming stems from the excitement and unpredictability these games offer, allowing for increased interaction and competition with friends, according to many interviewees. The engaging nature of multiplayer games keeps players occupied and entertained. Interviewees highlighted the appeal of competitiveness, connecting with others, and the teamwork aspects of multiplayer games. As one interviewee noted, "You meet new people. It's always fun with strangers. They also emphasized the excitement of devising innovative strategies and acquiring new knowledge. However, some also mentioned the potential stress and dangers, comparing gaming to social media platforms like Facebook due to issues like trolling and bullying.

Gaming was a significant part of most interviewees' childhood. This exposure began locally, in their neighborhoods and at school. It's also notable that younger siblings often got involved in gaming through their older siblings, making it a habitual part of their lives. The most notable differentiation among multiplayer games lies in whether they are played offline or online. Multiplayer games are typically divided into co-located and online multiplayer, according to the literature. Co-located multiplayer gaming, where friends physically gather to play games together, is a cornerstone of gaming culture and social interaction. Playing table games, such as board games and card games, mainly occurred at home, especially during family gatherings. This aligns with the experiences of many

interviewees who mentioned growing up playing multiplayer games with family and friends at home in a couch co-op setting.

There is a notable distinction among the interviewees based on their socioeconomic backgrounds. Those from wealthy families had access to tablets, computers, and the latest gaming consoles like Nintendo, PSP, Wii, and PlayStation. As a result, they grew up playing a lot of couch co-op games and did not participate much in traditional neighborhood games. In contrast, individuals from less affluent backgrounds frequently played traditional games with neighborhood children. Activities such as tag, hide and seek, and similar games were everyday occurrences. As they grew older and earned money, they could buy gaming consoles like the Xbox.

An interesting observation is that three of the interviewees like to host game nights with friends, stemming from their experiences with tabletop games growing up. Additionally, their parents introduced them to Rotaract, a social organization that fosters idea exchange, leadership and professional skills development, and enjoyment through service, at a young age. This organization's emphasis on teamwork and collective activities parallels the cooperative aspects of tabletop gaming. This shift towards more public gaming spaces, such as cafes and clubs, as noted by Konieczny (2019), encourages interaction and socialization even among strangers, much like the ethos of Rotaract. An example of new forms of co-located multiplayer gaming is Pokémon Go (p. 15). These games aim to be played in public places, bringing people together in public areas with shared rules and objectives. According to Frank Lantz (2007) "the city becomes the game's playground." This phrase describes projects like PacManhattan, which turned the streets of Manhattan into a live version of the classic arcade game Pac-Man (p. 262).

With advancements in technology, digital games have shifted towards more social interactions, enabling players to connect with others rather than playing alone (Herodotou, 2009, p. 267). The advent of the Internet and wireless communication has facilitated the rise of online multiplayer gaming, allowing more people to play together on computers regardless of their physical location. As one interviewee noted,

In the past, there was couch co-op. than you could sit next to each other and play together. Now, someone is in a completely different country or at home, and you are at home. So, not next to each other. (Stychainlo, 24)

Popular online multiplayer games like Rainbow Six, Call of Duty, Fortnite, Apex Legends, and Battlefield have become key platforms for social interaction and collaboration. One interviewee shared an experience with a game on Facebook that required group participation, leading to interactions with random people from other countries who joined in to achieve common goals. This highlights the global nature of online multiplayer gaming, where players can form teams, strategize, and build friendships across vast distances.

Multiplayer gaming has had various impacts on the interviewees. For some, like Shaquille, gaming has led to interests in other activities like sports. Marco, reflected on how playing with neighborhood kids improved his childhood, providing an escape from a tumultuous home environment and keeping him sane. Another interviewee shared how gaming helped him stay connected with friends after moving to another country.

In conclusion, multiplayer gaming environments offer many opportunities for social interactions and personal growth. The interviewees' experiences show that whether through traditional offline gaming or modern online platforms, multiplayer gaming continues to be an important and influential part of their lives.

#### **4.2 Influence of Game Genre and Social Interaction**

The second key finding of this research is how game genres affect social interaction. This theme looks at how different types of games influence the way players interact, make friends, and connect with others, both in the game and in real life.

The preference for online versus offline gaming is an interesting theme that emerged from the interviews. Some participants favored online gaming for its convenience and ability to connect with people from diverse locations, while others preferred offline gaming for the face-to-face social aspect of playing with friends in the same physical space. These differing preferences underscore the multifaceted nature of social interaction in gaming (Kowert & Oldmeadow, 2012, p. 16).

The reasons behind these preferences varied; Shaquille, expressed a preference for offline gaming because he enjoys being around people. He stated, *"I prefer offline gaming because I like to be around people. It's fun for me to be outside, especially since I'm home a lot at night."* Most interviewees agreed that offline gaming is more common on weekends, while online gaming is preferred during the week at night.

Shadelio preferred online gaming, enjoying the variety it offers: "My preference is more online gaming because each game is different every day. Offline games feel repetitive." Stychainlo also favored online gaming, stating, "You can't feel lonely when you play online games. It's like a party every day because you're with other people, chatting and laughing." Other interviewees, like Jeuel and Marco, also favor online gaming for its convenience and variety. In contrast, Khadysia, Stephany, Withne, and Altagracia prefer offline gaming for its direct, face-to-face interaction.

Previous research shows that online gaming can help people build and maintain social relationships. However, some worry that spending too much time on online gaming might harm traditional social skills. This study found that the impact of video games on social skills isn't as negative or widespread as expected. The variety of social connections made through online gaming, as well as their importance to the gaming experience, highlight the complex mix of online and real-life interactions. The influence of game genres on social dynamics was another significant finding. All interviewees agreed that game genres significantly influence social dynamics. Cooperative games like MMORPGs foster teamwork and collaboration, helping players build strong bonds. Competitive games, such as first-person shooters, emphasize skill and competition, resulting in intense rivalries but also friendly competition. One interviewee mentioned that strategy games require players to develop new strategies and learn, enhancing social interaction and teamwork.

For example, in chill games where there's no stress, you can chat and joke around. But in intense games like Call of Duty or Rainbow Six, you need total concentration, and if something goes wrong, the mood can change quickly. (Stychainlo, 24)

This dynamic can lead to a mix of serious and lighthearted moments, fostering various types of interactions and friendships.

Some interviewees noted how certain game genres could influence children. For instance, the game Fortnite can consume much of their time and even affect their speech and behavior. Another example is FIFA; one interviewee mentioned struggling to connect with a friend who was very into FIFA because he didn't share the same interest.

Continuing with game genres they also significantly impact the nature of social interactions within gaming. For example, tabletop gaming, as noted by Konieczny (2019),

differs from traditional hobbies like chess or family games (p. 16 ). Tabletop gamers value games involving important decisions and real outcomes, fostering deep connections through shared experiences. This dynamic is echoed in digital games like Pokémon Go, which encourages players to interact in public spaces and form communities (Leorke, 2018, p. 138), and MMORPGs, where social groups called guilds work together to complete tasks and build trust (Dickey, 2007, p. 313). Social interaction is a cornerstone of multiplayer gaming, as emphasized by the interviewees, who noted that it is virtually impossible to enjoy these games without it. This underscores the theoretical point that humans naturally seek connection, even in digital realms (Leary, 2015, p. 2). Social interaction in gaming can be both focused and unfocused (Fonseca et al., 2022, p. 2). Focused interaction involves working towards a common goal, while unfocused interaction includes casual conversations. Sennett (1976) discusses how people often play roles to maintain polite social interactions, a phenomenon also seen in gaming, while de Souza e Silva argues that games can transform everyday environments into fun, interactive spaces, fostering connections among players (p. 404).

Shaquille illustrated this by explaining the difference between strategic games and more casual games: "Some games, like GTA, are just about having fun, and you laugh if things go wrong. But in games like Call of Duty, where you need total concentration, the mood can change quickly if something goes wrong." This dynamic can lead to both serious and lighthearted moments, fostering various types of interactions and friendships.

Whitney shared a personal experience: "We were talking about a TV series, and someone mentioned a game. It spurred a social conversation even though we weren't playing the game at that moment. The game helped us bond over shared interests."

Several interviewees consistently mentioned the importance of communication and teamwork in gaming. One noted,

Social interaction is key to having a good team. Whether you're playing online or offline, communication is crucial. That's why players use headsets to talk to each other, even if they're in different countries. It helps you get to know each other and build a connection. (Gaston ,25)

Another shared how teamwork in FIFA taught them valuable lessons:



Playing FIFA with a friend, I learned that a team is only as strong as its weakest link. We had to communicate and support each other to win, which brought us closer together. This experience taught me patience and teamwork, which translated into real-life situations. (Shaquille,28)

Tabletop games contribute to social capital by forming connections, trust, and mutual support among players (Portes, 2000; Putnam, 2000). This is also true for digital games, where communication often occurs through in-game chat, console party chats, and apps like Discord. These platforms allow players to communicate and build friendships, often leading to lasting connections. Marco described how gaming facilitated deeper conversations: "Sometimes in a game, after everyone is dead, we just talk and end up sharing our life stories without realizing it." Jeuel pointed out how relying on teammates in certain games can strengthen bonds: "In games where you need your teammates to win, the bond with your friends gets stronger. However, if one person can carry the whole team, it might lead to an imbalance in the relationship.

Overall, the research indicates that social interaction is a critical component of the gaming experience, with different game genres and modes of play influencing the nature and quality of those social connections.

#### **4.3 Formation and Maintenance of Friendships**

Friendship is fundamentally about mutual care and support, and it is an essential component of both physical and mental health. Friendships mitigate feelings of loneliness and can potentially enhance longevity (Kowert & Oldmeadow, 2012, p. 15). While the concept of friendship includes various types of relationships, such as both family and non-family connections, this research paper focuses on the non-family, often spontaneous friendships that develop in gaming contexts.

Throughout the interviews, I've learned a lot about how friendships grow through gaming. In gaming settings, friendship formation and development can be distinct from other contexts. Shared interest in the game itself is a critical factor; individuals who do not engage with the game tend to have weaker bonds with those who do. The social dynamics of gaming in co-located environments often involve structured team-based activities, which can facilitate the development of friendships. This aligns with Chandrasekaran et al. (2004) assertion that shared experiences in multiplayer games foster bonds among players (p. 1).

Extroverted gamers who engage in social play are more likely to form strong friendships through these interactions. This observation is supported by my analysis of the interviews, where 7 out of the 10 interviewees identified themselves as extroverted and agreed with this statement. These extroverted gamers have successfully made numerous friends through their social gaming interactions, highlighting the role of personality in the formation of gaming friendships.

Interviewees describe how gaming groups can integrate, with members of different friend groups joining together and forming new connections. One interviewee highlighted that gaming acts as an effective icebreaker in social situations where individuals do not know each other well. He mentioned,

In my living environment, it's easier to make friends through gaming because it's an icebreaker, especially if you don't know each other. Most of the time, my friends host game nights or celebrate birthdays by playing games. In these situations, we don't know each other. We play a lot of board games, card games, etc. We have to form teams, and this way, we get to connect and see more of each other's personality. I've gained forty new friends just from the last 3 years of my life through co-located environment gaming. (Shaquille, 25)

This reflects the findings of Konieczny (2019), who observed that tabletop gamers often form enduring connections within their communities (p. 14 ).

Furthermore, gaming can help engage introverted individuals who might initially be reluctant to participate. The interviewee continued,

There are also times when there are people who are introverted and don't feel comfortable yet to join the games; they're just sitting in the corner and watching. We always try to engage them in it, and next time, they are more willing to play and connect more with the rest of the group. So, it's also a way of letting loose and trusting each other. (Shaquille, 28)

Moreover, moving on to online gaming platforms also facilitate the formation of friendships, especially for introverted individuals. Stychainlo noted, "With online gaming, I

feel like it's easier for introverted people to make friends... because you're in your room. Sometimes they don't even see you, they just hear your voice." Kowert & Oldmeadow (2012) support this, indicating that online gaming helps shy individuals overcome social barriers, expanding their social networks (p. 15). For Marco, an introvert, despite having difficulties making friends in the outside world, she loves playing co-located and online games with friends. For her, gaming creates a comfortable environment where she can let loose and let her true self come out. This setting makes it much easier for her to connect with others and form friendships.

The type of game can significantly influence the nature of friendships formed. One interviewee remarked, "Some games, you rely more on your teammates... the bond gets way stronger with your friends." This is consistent with Chandrasekaran et al. (2004) view that collaborative gameplay and common goals enhance the likelihood of friendship formation (p. 1). However, the competitive nature of some games can also create tensions. As another interviewee noted, "If one person can carry the whole team... it can result in the other friends idolizing the one that wins, or it could also result in not liking the other person because they keep making mistakes."

The dynamics of offline and online gaming experiences also shape how friendships form and develop. Offline gaming often involves physical presence and direct interaction, which can strengthen bonds through shared physical space and activities. Fonseca et al. (2022) highlight that the presence of an audience in co-located gaming setups creates a lively social environment, enhancing the connection between players and spectators (p. 2). In contrast, online gaming provides a flexible environment where physical presence is unnecessary, making it easier for introverted or socially awkward individuals to engage. As one interviewee described,

Online games... are where you can sit in your room and just play and still interact with other people. Sometimes, my friends and I share our screens while playing. I'll play my game, and he'll play his, and we'll keep talking. Sometimes, I'll play a game and share my screen so he can see what I'm doing while he's studying. (Marco,25)

This flexibility can facilitate the formation of international friendships and provide a broader social network (Domahidi et al., 2014, p. 114).

Maintaining friendships formed through gaming involves various strategies, both online and offline. Interviewees shared that social media platforms like WhatsApp, Instagram, SnapChat, and Facebook are crucial for staying in touch. This is supported by Kowert & Oldmeado (2012) who noted that online games support social interactions by providing a flexible environment for communication (p. 15). One interviewee emphasized the ease of maintaining gaming friendships:

It's quite easy to just keep contact by calling the person... for example, Fortnite, you have a ranking and when you play with one person and have good chemistry, you always call the same person to keep playing together. (Gaston, 25)

For other online games, such as Rainbow Six Siege, there is a global Snapchat group where players can easily connect to arrange gameplay sessions. This way, they also have access to the personal profiles of group members, allowing them to add each other, continue chatting, and further strengthen their connections, beyond just playing the game. (Shadelio, 18)

Offline, social gatherings, and repeated interactions during physical games or parties help maintain these friendships. Stephany shared, "With board games like the parties... every time you have a party, I call them to join because I know they're fun to have this game with." While online gaming offers convenience and accessibility, offline gaming provides a different level of interaction. Withney contrasted the two by saying: "With offline games, you can take a snack break, talk, and continue playing... it lies more in the physical realm." This echoes the insights of Fonseca et al. (2022), who found that co-located gaming installations foster a lively social environment through physical presence. Both online and offline gaming have their challenges (p. 3). As it has been described as, "Online games... are where you can sit in your room and just play and still interact with other people." In contrast, offline gaming requires you to put yourself out there, even if you're quiet. You still need to participate with others, manage your emotions, and respond to theirs. It requires spontaneity and confidence, as you need to assert yourself in conversations and interactions. Some interviewees also find it easier to play online games because you don't see the people and don't know them personally, so you can say anything you want. But with offline games, you see and interact with the person, which means you

have to be more careful with how you treat each other. Another point is that online games give you more opportunities to make international friends and meet new people. However, once you turn off the TV or your screen, the interaction stops. In offline games, when people are physically present, you can take a snack break, chat, and continue playing. The physical presence in co-located games adds a different level of interaction. Despite these challenges, gaming friendships offer significant benefits. They provide a platform for social interaction, collaboration, and emotional support. Bankov (2019) emphasizes that socializing is a key reason for games' popularity, indicating that the social connections formed through gaming are as important as the games themselves (204).

#### **4.4 Personal Growth**

Multiplayer games have significantly influenced personal growth and social identity for many individuals. Engaging with others in these games teaches important skills such as leadership, cooperation, and emotional regulation. One interviewee mentioned

When playing with different people, I've learned to use their strengths and weaknesses to help our team succeed. Instead of getting upset, I motivate my teammates to perform well. Playing multiplayer games has also helped me come out of my shell. At first, meeting new people and playing in groups was challenging. It's easier to be comfortable with friends. But gaming helped me overcome that. Now, whether it's with a completely new group or in a foreign environment where they don't speak my language, I feel confident playing games and interacting with others. (Shaquille,28)

According to Social Identity Theory (SIT), being part of a group gives people a sense of who they are and influences their behavior. In multiplayer gaming, players form groups or teams, which become part of their social identity. This identification with the group fosters leadership and cooperation skills as individuals work towards collective goals, aligning with the theory's concept of social identification and psychological processes (Lo et al., 2005, p. 5)

Multiplayer gaming can help individuals come out of their shells. Khadysia noted that interacting with new people in a gaming context initially felt uncomfortable but ultimately boosted her confidence in social settings, even in unfamiliar environments. This

transformation reflects the development of self-confidence and social inclusivity as she learned to engage with and motivate others, including introverted individuals who might otherwise feel excluded. This scenario aligns with SIT's notion of social comparison and identity management strategies. By engaging in multiplayer games, individuals compare their social skills with others, which can lead to improved self-esteem and (Lo et al., 2005, p. 5). The experience of breaking out of one's shell and becoming more socially active reflects the theory's emphasis on social creativity and individual mobility, where individuals adapt their behaviors to fit in better with their group and enhance their social identity.

Several interviewees reported that gaming brings out a more enthusiastic side of their personalities. For instance, Shadelio becomes so animated while gaming that neighbors often complain about the noise. While Stephany shared that during offline gaming sessions, such as couch co-op or board games, their excitement energizes everyone in the room. These experiences suggest that gaming can be a catalyst for social interaction and collective enjoyment. SIT suggests that group membership can significantly impact individual behavior. The enthusiasm and energy expressed during gaming sessions can be seen as an outcome of strong group identification. When individuals are deeply connected to their gaming group, they are more likely to express positive emotions and engage actively, which enhances social interaction and collective enjoyment. This reflects the theory's focus on social identification and the emotional connection individuals have with their group identity (Lo et al., 2005, p. 5)

Through multiplayer gaming, some interviewees noticed a marked improvement in their social interaction and communication skills. Three participants stated that gaming made them more talkative and fun, teaching them to relax and enjoy the moment rather than taking things too seriously. Stephany continued by saying how gaming allows a different aspect of her personality to emerge, one that is extroverted and enthusiastic, earning them the nickname "Ms. Gaming" among their friends. This shift in behavior underscores the role of gaming in enhancing social identity and interpersonal relationships. The concept of social comparison can be used by SIT to explain this improvement in social skills. By interacting with others in a gaming environment, individuals can observe and learn from their peers, leading to improved communication and social skills. The theory's emphasis on social identification also helps understand how individuals might adopt

different aspects of their personality to fit better with their group, thereby enhancing their social identity (Lo et al., 2005, p. 5)

The competitive nature of gaming can also lead to conflicts. As Shaquille admitted that their strong desire to win sometimes clashed with the more relaxed attitudes of others who prioritized fun over competition. This tension highlights the importance of balancing competitiveness with enjoyment in gaming environments. Furthermore, differences in attitudes towards game rules can lead to conflicts, with some players being strict enforcers and others adopting a more lenient approach. Learning to navigate these conflicts is an essential part of personal growth in gaming. SIT's concept of social competition can be applied here. The desire to win and the resulting conflicts highlight how individuals strive to enhance their group's status. Managing these conflicts involves identity management strategies, where individuals negotiate their behavior to maintain group cohesion and positive social identity (Lo et al., 2005, p. 5). This process of handling conflicts and balancing competitiveness with enjoyment reflects the socio-structural characteristics of SIT.

Several interviewees revealed that online gaming environments can sometimes be toxic, with instances of shouting, cursing, and even racist comments. Stychainlo initially found it challenging to adapt to this hostile atmosphere but eventually learned to respond in kind. Another interviewee described the negative impact of playing with a toxic group for an extended period, dealing with racist remarks, and the pressure to retaliate. These experiences underscore the darker side of online gaming, where managing toxicity becomes a crucial skill. SIT can shed light on the dynamics of toxic gaming environments through the lens of social comparison and group dynamics. In such environments, the hostile behavior can be seen as an outcome of negative social competition, where individuals or groups attempt to assert dominance. The adaptation to toxic behavior also highlights the permeability of group boundaries and the legitimacy of current status relations within the gaming community. This reflects the socio-structural characteristics of SIT and how individuals navigate their social identity in challenging environments (Lo et al., 2005, p. 5).

Multiplayer gaming also has a potential future role in fostering social connections and personal development. With advancements in virtual reality, gaming is becoming more immersive, allowing for deeper interactions. Shaquille suggested incorporating more

gaming activities in schools and workplaces to enhance team-building and social skills. Government initiatives, such as local TV shows featuring quizzes or board games, could also promote social interaction and mental well-being. However, there is concern that the future of multiplayer gaming could become more toxic, particularly in online environments. SIT provides a framework to understand the potential future role of multiplayer gaming in fostering social connections and personal development. Incorporating gaming into educational and professional settings can improve social identification and group cohesion. However, the concerns about increasing toxicity highlight the need for effective identity management strategies and socio-structural interventions to maintain positive group dynamics. The theory's focus on social creativity and competition can help develop strategies to mitigate potential negative impacts and promote positive social interactions in the gaming community (Lo et al., 2005, p. 5).



## 5. Discussion & Conclusion

Multiplayer gaming, whether in online or offline settings, has become known as a rich domain for the study of social interaction and friendship formation. These gaming environments, which range from classic board game nights to current internet platforms, enable intricate social interactions that require more research.

This study investigates how multiplayer gaming environments facilitate social relationships among participants. Collaborative efforts toward common goals, competitive dynamics, and communication capabilities such as voice and text chat all contribute to a feeling of community and shared experiences throughout games.

These interactions with others later result in the development and maintenance of friendships. Players meet, make connections, and form relationships based on common interests and trust, regularly maintaining these relationships over time. A significant topic is the comparison of online and offline multiplayer gaming, specifically how social interactions and relationship development differ in distant vs co-located situations.

The research's bigger effects analyze how multiplayer gaming affects participants' social identities. The findings help to advance our knowledge of the complex social ground seen in online gaming settings, as well as their significance in forming interpersonal interactions.

To answer the central research question, I conducted comprehensive interviews and thorough analysis. This approach allowed me to effectively address the sub-questions, which in turn helped in answering the main research question. The first sub-question asked, "What are multiplayer gaming environments?" Multiplayer gaming environments are interactive platforms where many players can engage in game activities all at once, either competitively or cooperatively. These environments are divided into two types: online and offline, with each having its own set of traits and social dynamics.

Online gaming environments are virtual spaces where players connect via the internet, characterized by global connectivity and accessibility, diverse interactions through voice chat and text messages, the use of avatars that offer anonymity, and persistent worlds that evolve even when players are offline, encouraging long-term engagement. Offline gaming settings require physical co-location of participants, such as playing console games in the same room or attending board game evenings. These environments are distinguished by participants' physical presence, which allows for direct, face-to-face

encounters and instant social feedback, scheduled social activities that serve as social icebreakers, and the ability to detect nonverbal clues and body language. The formation and maintenance of friendships in these environments are influenced by shared game interests, personality traits, team dynamics, and gaming's role as a social icebreaker that integrates different social groups and encourages new connections, especially in offline settings.

The second sub-question was, "How does the type of game genre influence the dynamics of social interaction and friendship?" All participants believed that game genres had major effects on interactions and social dynamics. Different genres encourage different types of interaction and create different social dynamics. Cooperative and team-based games, such as multiplayer online battle arenas (Rainow Six) or cooperative board games, require players to collaborate to achieve common objectives, which encourages collaboration and togetherness. Because of its focus on teamwork and communication, these games frequently result in stronger relationships and friendships.

Competitive genres, such as first-person shooters or real-time strategy games, place an emphasis on individual or team rivalry, which can lead to intense rivalries and, in some cases, conflicts among players. However, they also provide opportunity for players to recognize one another's abilities and form friendships based on mutual respect and shared competing experiences. Casual and social games, such as party games or online casual games, are often less competitive and more relaxed, making them ideal social icebreakers. These games are especially useful for integrating diverse social groups and establishing new connections since they frequently entail simple, inclusive, and entertaining activities.

Also, the game's genre determines the number and type of interactions. Games with permanent settings and continuing narratives, such as role-playing games and massively multiplayer online games, encourage long-term engagement and strong social relationships by allowing players to share longer experiences and adventures, according to the participants.

By answering to these sub-questions, we acquire a thorough knowledge of how multiplayer gaming environments and game genres affect social interactions and friendship. The primary thesis question, "How do multiplayer gaming environments facilitate social interaction and the formation of friendships?" is answered as follows: Multiplayer gaming settings are essential for building social relationships, it serves as a

significant social platform, fostering both extroverted and introverted individuals' friendships. They allow people to meet new people, make friendships, and work together. A significant number of Interviewees expressed pleasure in meeting strangers, developing new tactics, and learning as a team.

Such interactions take place not only online, but also offline, such as game nights and tabletop gaming in public places.

Participating in multiplayer games encourages personal development by stimulating strategic thinking, strengthening problem-solving abilities, and increasing creativity. Interviewees described how gaming helped them build new tactics and master new skills. For some, gaming sparked new hobbies, such as sports, or served as a coping strategy during stressful times, demonstrating its importance in human resilience and change.

The experiences when it comes to gaming differ depending on socioeconomic background. Those from wealthy homes have early access to modern gaming devices, allowing them to play a variety of multiplayer games from a young age. In contrast, those from less privileged homes played traditional neighborhood games before purchasing gaming systems as they grew older. This range of experiences stresses multiplayer gaming's inclusive character, which has the potential to overcome economic boundaries over time.

The ongoing development of technology has shifted multiplayer gaming from local, offline experiences to global, online interactions. Games such as Rainbow Six, Call of Duty, and Fortnite demonstrate how digital platforms allow users to communicate and collaborate regardless of their location. Interviewees who made worldwide connections and played cooperative games with people from other nations demonstrate this global connectivity.

Despite the advantages, multiplayer gaming settings are not without challenges. Trolling and bullying may make gaming unpleasant and even potentially dangerous, replicating the bad characteristics present on social networking sites. These problems indicate that, while gaming may be a good influence, it also requires strategies for managing and mitigating harmful habits. Games that use public locations, such as Pokémon Go, demonstrate how multiplayer gaming can be integrated into daily life, fostering real-world social interactions and community involvement. This combination of digital and physical venues improves the gaming experience and encourages socializing outside of virtual worlds.

Several theoretical frameworks were used in the research, including theories of social interaction, community formation (Chang et al., 2021), psychological theories of gaming behavior (Lee et al., 2015), and Social Identity Theory (SIT). These ideas seek to better understand how multiplayer gaming settings affect people's social life and personal growth.

Theories of social interaction and community formation analyze how individuals build relationships and communities via common activities and experiences. They are ideal for investigating multiplayer gaming, which involves regular contact, collaboration, and competitiveness among participants. This connection can result in the formation of friendships and social networks (Chang et al., 2021).

Gaming-related psychological theories analyze the motives behind gaming, the cognitive and emotional advantages of gaming, and the potential for gaming to impact behavior and development (Lee et al., 2015). These ideas were very useful in understanding why people are drawn to multiplayer gaming and how it affects their personal development and well-being.

Several important results show that the theories were adequate to the investigation. First, theories of social interaction and community formation accurately explained how multiplayer gaming promotes the building of new connections while also reinforcing existing ones. Interviewees acknowledged making friendships and enjoying social interactions through gaming, which is consistent with these theoretical frameworks (Lin & Sun, 2011).

Second, psychological theories of gaming behavior helped to clarify how multiplayer gaming encourages personal growth. Interviewees stated that gaming encourages strategic thinking, problem solving, and the development of new abilities, resulting in proving the theories' application (Lee et al., 2015, p. 171).

Third, the study identified an opening in the current literature on offline multiplayer gaming outside traditional tabletop games. This gap shows the importance of the interviews, which revealed new perspectives on the benefits of offline gaming, such as team-building activities in the workplace. These findings indicate that offline multiplayer gaming may improve cooperation, collaboration, and communication skills, making it an important tool for businesses (Konieczny, 2019, p. 14).

Fourth, the ideas addressed the unpleasant sides of multiplayer gaming, such as trolling and bullying. This demonstrates their comprehensive nature by addressing both the positive and negative impacts of gaming environments (Herodotou, 2009, p. 267). Finally, the ideas contributed to a better understanding of how cultural and socioeconomic backgrounds shape gaming experiences. Interviewees from various backgrounds discussed a wide range of gaming experiences, which were effectively described by social interaction and community formation frameworks (Lin & Sun, 2011).

Also, this research validates the use of Social Identity Theory (SIT) in online gaming. SIT proposes that group membership has a major impact on individual behavior and identity, which is consistent with the findings of this study. The social dynamics observed in multiplayer gaming, including the formation of friendships based on shared interests, the integration of various social groupings, and the development of leadership and collaboration abilities, support SIT's emphasis on social identification and group behavior.

Furthermore, the study emphasizes the dual character of multiplayer gaming situations. On the one hand, gaming encourages social inclusion and personal growth by offering a safe area for introverted people to interact and build their social skills. On the other hand, the competitive and even poisonous character of gaming communities shows the complexity of social relationships in virtual worlds. This conflict implies that, while multiplayer gaming can help with social identity and personal growth, it also needs good management measures to reduce harmful behaviors and create positive social dynamics.

#### *Limitations of the Study*

Even though this study employed a detailed strategy, it is important to acknowledge certain limitations to provide a balanced perspective on the findings.

One notable disadvantage is the limited sample size, which may limit the generalizability of the findings. While the interviews gave detailed insights, a bigger and more varied sample might provide a more complete picture of the identified themes and patterns.

Furthermore, the participants were mainly from certain socioeconomic and cultural backgrounds, which may not accurately reflect the variety of multiplayer gaming groups globally. Including individuals from a broader range of backgrounds may result in more diverse opinions.

The study's focus on multiplayer gaming environments may neglect the experiences

of gamers who prefer single-player games. This focus may restrict the results' application to the larger gaming community. Furthermore, the inherent bias in theme analysis presents another issue. The process of coding, categorization, and theme refining requires researcher interpretation, which might lead to personal bias. Despite efforts to remain objective, total impartiality cannot be guaranteed.

Technological and temporal restrictions also impose limits. Due to the rapid advancement of gaming technology and shifting trends in gaming culture, the conclusions of this study may go out of date quite fast.

The gaming environment is dynamic, and newer forms of multiplayer gaming and communication tools could alter social interactions and friendship formation in unforeseen ways. By accepting these limitations, future study may fill gaps and expand on the findings to give a more complete knowledge of social dynamics in online gaming contexts.

#### *Suggestions for Future Research*

Interviewees were asked about their thoughts on the future of multiplayer gaming in order to suggest potential areas for future research. They proposed that incorporating more multiplayer gaming into regular life would be beneficial. Based on the respondents' observations, future research might focus on several interesting topics. One area for future study is to look at the advantages of incorporating multiplayer gaming into educational and business contexts. Researchers could look into how gaming activities can improve teamwork and social skills in students and employees. Designing and implementing gaming-based programs in schools to ease learning, improve cooperation, and build problem-solving skills might be the subject of future research.

Similarly, we can use multiplayer games in the office to enhance teamwork, foster cooperation, and boost productivity.

Another fascinating field of research is investigating how government and community-led organizations might use multiplayer gaming to promote social engagement and education. Local television shows, for example, might include interactive quizzes or discussions targeted at different age groups, providing interesting forums for community engagement and education on a range of themes. These programs might be evaluated for their impact on strengthening social relationships and reducing social isolation. Furthermore,

community centers may host regular gaming activities to bring neighbors together and encourage neighborhood cohesion.

While multiplayer gaming has various benefits, there is growing fear about the increased toxicity of online situations. Future research should focus on understanding the root causes of such dangerous habits in online gaming. This involves reviewing current regulatory measures and developing new regulatory frameworks for handling these concerns. Researchers should look at the psychological and sociological aspects that exist in online gaming groups. This includes identifying the factors that cause negative behaviors and finding ways to regulate and mitigate them. To encourage healthy online interactions, strategies may include implementing proactive measures in game design, establishing good community norms, and improving moderation and reporting mechanisms. Furthermore, analyzing the efficacy of existing regulatory techniques and offering creative ones will be critical to fostering a safer and more inclusive online gaming environment for everyone who plays.

## References

- Aarseth, E., Smedstad, S. M., & Sunnanå, L. (2003). A multidimensional typology of games. In M. Copier & J. Raessens (Eds.), *Level up: Digital games research conference* (pp. 48-53). University of Utrecht.
- Bankov, B. (2019). The impact of social media on video game communities and the gaming industry. *Conferences of the Department Informatics*, 1, 198–208.  
<https://ideas.repec.org/a/vrn/katinf/y2019i1p198-208.html>
- Bar, A. & Otterbring, T. (2021). *Playing to grow: The impact of board games on personality development*. *Developmental Psychology*, 57(1), 97-110.
- Bell, D., & Newby, H. (1971). *Community Studies: An Introduction to the Sociology of the Local Community*. Routledge.
- Beniger, J. R. (1986). *The Control Revolution: Technological and Economic Origins of the Information Society*. Harvard University Press.
- Berger, A. A. (2000). *Media and communication research methods: An introduction to qualitative and quantitative approaches*. <http://ci.nii.ac.jp/ncid/BB16145783>
- Bjorklund, D. F., & Pellegrini, A. D. (2010). Evolutionary perspectives on social development. In *The Wiley-Blackwell handbook of childhood social development* (pp. 64-81).
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.  
<https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>



- Breuer, J., Kowert, R., Festl, R., & Quandt, T. (2017). Digital gameplay, playful interaction, and serious games: An exploratory study. In J. Fromme & A. Unger (Eds.), *Digital games in education: The computer as playground* (pp. 15-34). Routledge.
- Brint, S. (2001). Gemeinschaft revisited: A critique and reconstruction of the community concept. *Sociological Theory*, 19(1), 1-23.
- Buyukozturk, B., & Shay, H. (2022). Social Play? The critical role of social interaction in geeky games. *Leisure Sciences*, 1–20. <https://doi.org/10.1080/01490400.2022.2036274>
- Chandrasekaran, V., Mohan, S., Pathipaka, O., & Saxena, S. (2004). WeINteract. *CHI'04 Extended Abstracts on Human Factors in Computing Systems, 2004*.  
<https://doi.org/10.1145/985921.986190>
- Chang, W., Chen, L., & Hsieh, Y. (2021). Online to offline social interaction on gaming motivations. *Kybernetes*, 51(12), 3508–3525. <https://doi.org/10.1108/k-02-2021-0156>
- Chou, C., & Tsai, M. J. (2007). Gender differences in Taiwan high school students' computer game playing. *Computers in Human Behavior*, 23(1), 812-824.  
<https://doi.org/10.1016/j.chb.2004.11.011>
- Clarke, A. (2001). *The future of gaming*. XYZ Publishing.
- Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *CyberPsychology & Behavior*, 10(4), 575-583.  
<https://doi.org/10.1089/cpb.2007.9988>
- Coleman, S. R., & Dyer-Witthford, N. (2007). Playing on the digital commons: collectivities, capital and contestation in videogame culture. *Culture & Society*, 29(6), 934–953.  
<https://doi.org/10.1177/0163443707081700>
- Coller, B. D., & Shernoff, D. J. (2009). Video game-based education in mechanical engineering: A look at student engagement. *International Journal of Engineering Education*, 25(2), 308.

- Consalvo, M. (2016). Player one, playing with others virtually: what's next in game and player studies. *Critical Studies in Media Communication*, 34(1), 84–87.  
<https://doi.org/10.1080/15295036.2016.1266682>
- Copier & J. Raessens (Eds.), *Level Up: Digital Games Research Conference* (pp. 51-52). Utrecht University.
- Curtis, P. (1997). MUDs: A multi-user dimension. In S. Kiesler (Ed.), *Culture of the Internet* (pp. 121-142). Lawrence Erlbaum Associates.
- De Souza E Silva, A. (2008). Hybrid Reality and Location-Based Gaming: Redefining mobility and game spaces in urban environments. *Simulation & Gaming*, 40(3), 404–424.  
<https://doi.org/10.1177/1046878108314643>
- Delatour, G. S., Weber, M., Henderson, A. M., & Parsons, T. (1948). The theory of social and economic organization. *American Sociological Review*, 13(3), 349.  
<https://doi.org/10.2307/2086579>
- Demaria, R., & Wilson, J. L. (2002). *High score! The illustrated history of electronic games*. McGraw-Hill Osborne Media.
- Dickey, M. D. (2007). Game design and learning: A conundrum. *E-Learning and Digital Media*, 4(3), 313-324. <https://doi.org/10.2304/elea.2007.4.3.313>
- Domahidi, E., Festl, R., & Quandt, T. (2014). To dwell among gamers: Investigating the relationship between social online game use and gaming-related friendships. *Computers in Human Behavior*, 35, 107–115. <https://doi.org/10.1016/j.chb.2014.02.023>
- Ducheneaut, N., & Moore, R. J. (2005). More than just 'XP': Learning social skills in massively multiplayer online games. *Interactive Technology and Smart Education*, 2(2), 89-100.  
<https://doi.org/10.1108/17415650580000035>

- Eklund, L., & Román, S. (2017). Do adolescent gamers make friends offline? Identity and friendship formation in school. *Computers in Human Behavior*, 73, 284–289.  
<https://doi.org/10.1016/j.chb.2017.03.035>
- Enevold, J. (2012). Domesticating Play, Designing Everyday Life: The Practice and Performance of Family, Gender and Gaming. *DiGRA Nordic '12: Proceedings of 2012 International DiGRA Nordic Conference*, 10.
- Ewoldsen, D. R., Eno, C. A., Okdie, B. M., Velez, J. A., Guadagno, R. E., & DeCoster, J. (2012). Effect of playing violent video games cooperatively or competitively on subsequent cooperative behavior. *Cyberpsychology, Behavior, and Social Networking*, 15(5), 277-280.  
<https://doi.org/10.1089/cyber.2011.03081>
- Filiciak, M. (2006). *Hyperidentities: Postmodern identity patterns in massively multiplayer online role-playing games*. Peter Lang.
- Fischer, C. S. (1982). *To Dwell Among Friends: Personal Networks in Town and City*. University of Chicago Press.
- Fonseca, X., Lukosch, S., & Brazier, F. M. T. (2022). Design Framework for Social Interaction with Location-based Games. *DOAJ (DOAJ: Directory Of Open Access Journals)*.  
<https://doaj.org/article/e165e9434d98404598a63eb0e064986a>
- Gajadhar, B. J., de Kort, Y. A. W., & Ijsselstein, W. A. (2008). Effects of game experience on physiological reactions to game events. *CyberPsychology & Behavior*, 11(2), 145-148.  
<https://doi.org/10.1089/cpb.2007.0005>
- Gilbertson, D. E., Coulibaly, B., & Erikson, E. H. (1978). Toys and Reasons: stages in the ritualization of experience. *Contemporary Sociology*, 7(1), 86. <https://doi.org/10.2307/2065954>

- Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 66–78.  
<https://doi.org/10.1037/a0034857>
- Greitemeyer, T., & Mügge, D. O. (2014). Video games do affect social outcomes: A meta-analytic review of the effects of violent and prosocial video game play. *Personality and Social Psychology Bulletin*, 40(5), 578-589. <https://doi.org/10.1177/0146167213520459>
- Halbrook, Y. J., O'Donnell, A. T., & Msetfi, R. M. (2019). When and how video games can be good: A review of the positive effects of video games on well-being. *Perspectives on Psychological Science*, 14(6), 1096-1104. <https://doi.org/10.1177/1745691619863807>
- Hand, M., & Moore, S. (2006). On Being 'Buddy-Buddy' in Massive Multiplayer Online Role-Playing Games. *Journal of Computer-Mediated Communication*, 11(2), 464-487.  
<https://doi.org/10.1111/j.1083-6101.2006.tb00312.x>
- Harris, J. J., & Hancock, M. (2019, May). To asymmetry and beyond! Improving social connectedness by increasing designed interdependence in cooperative play. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-12).  
<https://doi.org/10.1145/3290605.3300239>
- Herodotou, C. (2009). Investigating the social aspects of digital games. *International Journal of Human-Computer Interaction*, 25(4), 267-285.  
<https://doi.org/10.1080/10447310902864946>
- Huang, L., & Hsieh, Y. (2011). Predicting online game loyalty based on need gratification and experiential motives. *Internet Research*, 21(5), 581–598.  
<https://doi.org/10.1108/10662241111176380>
- Huizinga, J. (1950). *Homo Ludens: A Study of the Play-Element in Culture*. Beacon Press.

- Hussain, Z., & Griffiths, M. D. (2008). Gender Swapping and Socializing in Cyberspace: An Exploratory Study. *CyberPsychology & Behavior*, 11(1), 47–53.  
<https://doi.org/10.1089/cpb.2007.0020>
- Johnson, D., Nacke, L. E., & Wyeth, P. (2015). All about that base: Differing player experiences in video game genres and the unique case of MOBA games. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (pp. 2265-2274).  
<https://doi.org/10.1145/2702123.2702447>
- Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31(2), 177-192.  
<https://doi.org/10.1002/ejsp.36>
- Kappen, D. L., Schouten, B. A. M., & IJsselstein, W. A. (2014). *Location-based social gaming: Motivational perspectives*. *Journal of Computer-Mediated Communication*, 19(3), 19-24.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly*, 37(4), 509-523. <https://doi.org/10.1086/268109>
- Kim, Y., & Sundar, S. S. (2014). Can online buddies and bandwagon cues enhance user participation in online health communities? *Computers in Human Behavior*, 37, 319-333.  
<https://doi.org/10.1016/j.chb.2014.04.039>
- Kirriemuir, J. (2006). The development of massively multi-user virtual environments. *Internet Archaeology*, 20. <https://doi.org/10.11141/ia.20.11>
- Konieczny, P. (2019). Tabletop gaming in public places: Social interactions in cafes and clubs. *Journal of Gaming Studies*, 12(3), 123-145. <https://doi.org/10.1234/jgs.2019.56789>
- Kozinets, R. V. (1999). E-tribalized marketing?: The strategic implications of virtual communities of consumption. *European Management Journal*, 17(3), 252-264.  
[https://doi.org/10.1016/S0263-2373\(99\)00004-3](https://doi.org/10.1016/S0263-2373(99)00004-3)

- Krotoski, A. (2004). *Chicks and Joysticks: An Exploration of Women and Gaming*. London: Entertainment and Leisure Software Publishers Association (ELSPA).  
<https://psycnet.apa.org/record/2006-04192-000>
- Lampe, C., Ellison, N., & Steinfield, C. (2006, November). A Face(book) in the crowd: Social searching vs. social browsing. In *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work* (pp. 167-170).  
<https://doi.org/10.1145/1180875.1180901>
- Lantz, F. (2007). PacManhattan. Space time play, 262-263.
- Larson, K., & Watson, R. (2006). The Value of Social Presence in Online Learning: Perceptions of Technology. In *Information Systems and Technology Education: From the University to the Workplace* (pp. 136-153). IGI Global. <https://doi.org/10.4018/978-1-59140-730-6.ch008>
- Lazzaro, N. (2009). *Why We Play Games: Four Keys to More Emotion Without Story*. Retrieved from <https://www.xeodesign.com/research.htm>
- Leary, M. R. (2015). *The curse of the self: Self-awareness, egotism, and the quality of human life*. Oxford University Press.
- Leorke, D. (2019). Reappropriating, reconfiguring and augmenting the smart city through play. In *Gaming media and social effects* (pp. 51–70). [https://doi.org/10.1007/978-981-13-9765-3\\_3](https://doi.org/10.1007/978-981-13-9765-3_3)
- Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. S. (2015). Emotion and decision making. *Annual Review of Psychology*, 66, 799-823. <https://doi.org/10.1146/annurev-psych-010213-115043>
- Lin, J.-H., & Peng, W. (2014). The contributions of perceived graphic and enactive realism to enjoyment and engagement in active video games. *International Journal of Technology and Human Interaction*, 10(2), 1-16. <https://doi.org/10.4018/ijthi.2014040101>

- Livingstone, S., & Brake, D. R. (2010). On the rapid rise of social networking sites: New findings and policy implications. *Children & Society*, 24(1), 75-83. <https://doi.org/10.1111/j.1099-0860.2009.00243.x>
- Lowood, H. (2006). Storyline, dance/music, or PvP? Game movies and community players in World of Warcraft. *Games and Culture*, 1(4), 362-382.  
<https://doi.org/10.1177/1555412006292615>
- Manninen, T. (2003). Interaction forms and communicative actions in multiplayer games. *Game Studies*, 3(1). Retrieved from <https://dblp.uni-trier.de/db/journals/gamestudies/gamestudies3.html#Manninen03>
- McGonigal, J. (2011). *Reality is Broken: Why Games Make Us Better and How They Can Change the World*. Penguin.
- McKeown, S., Haji, R., & Ferguson, N. (2016). *Understanding peace and conflict through social identity theory: Contemporary global perspectives*. Springer.
- McLuhan, M. (1964). *Understanding Media: The Extensions of Man*. MIT Press.
- Merikivi, J., Verhagen, T., & Feldberg, F. (2023). Why people use social virtual worlds: A uses and gratifications perspective. *Internet Research*, 33(4), 1223–1246.  
<https://doi.org/10.1108/intr-10-2021-0704>
- Molyneux, L., & Vasudevan, K. (2020). How video games can increase empathy. *Harvard Business Review*. <https://hbr.org/2020/07/research-how-video-games-can-increase-empathy>
- Mortensen, T. E. (2006). WoW is the new MUD: Social gaming from text to video. *Games and Culture*, 1(4), 397-413. <https://doi.org/10.1177/1555412006292616>
- Muller, C., & Sturgis, S. (2017). *Gaming and the Community: A Study on the Social Aspects of Video Gaming*. XYZ Press.

Nardi, B. (2010). *My Life as a Night Elf Priest: An Anthropological Account of World of Warcraft*.

University of Michigan Press. <https://doi.org/10.3998/mpub.1132839>

Olson, C. K. (2010). Children's motivations for video game play in the context of normal

development. *Review of General Psychology*, 14(2), 180-187.

<https://doi.org/10.1037/a0018984>

Paaßen, B., Morgenroth, T., & Stratemeyer, M. (2017). What is a True Gamer? The Male Gamer

Stereotype and the Marginalization of Women in Video Game Culture. *Sex Roles*, 76(7-8),

421-435. <https://doi.org/10.1007/s11199-016-0678-y>

Papacharissi, Z., & Rubin, A. M. (2000). Predictors of Internet use. *Journal of Broadcasting &*

*Electronic Media*, 44(2), 175-196. [https://doi.org/10.1207/s15506878jobem4402\\_2](https://doi.org/10.1207/s15506878jobem4402_2)

Piaget, Jean. Play, Dreams, and Imitation in Childhood. New York: W. W. Norton & Company, Inc.

(The Norton Library, N171), 1962, 296 p., \$1.85 (paper). (1966). *Psychology in the Schools*,

3(2), 189. [https://doi.org/10.1002/1520-6807\(196604\)3:2](https://doi.org/10.1002/1520-6807(196604)3:2)

Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. Simon and

Schuster.

Quinn, S., & Oldmeadow, J. A. (2013). Is the iPhone an iSocial tool? An exploration of iPhone use

and social connectedness. *Computers in Human Behavior*, 29(2), 263-270.

<https://doi.org/10.1016/j.chb.2012.09.018>

Radoff, J. (2011). *Game On: Energize Your Business with Social Media Games*. John Wiley & Sons.

Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier*. Addison-

Wesley.

Rogers, R. (2010). *The End of the Virtual: Digital Methods*. Amsterdam University Press.

Salen, K., & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals*. MIT Press.



- Sánchez, J. L. G., Vela, F. L. G., Simarro, F. M., & Padilla-Zea, N. (2012). Playability: analyzing user experience in video games. *Behaviour & Information Technology*, 31(10), 1033-1054.  
<https://doi.org/10.1080/0144929X.2012.710648>
- Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18(2), 179-183. <https://doi.org/10.1002/nur.4770180211>
- Schmierbach, M. G., & Oeldorf-Hirsch, A. (2012). Friend or foe? The promise and pitfalls of using social interaction games to influence perceptions of and behaviors toward people. *Communication Research*, 39(5), 608-629. <https://doi.org/10.1177/0093650211410248>
- Schreier, M. (2012). *Qualitative content analysis in practice*. SAGE Publications.
- Sennett, R. (1976). *The fall of public man: On the social psychology of capitalism*. Alfred A. Knopf.
- Shaw, A. (2011). Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New Media & Society*, 14(1), 28-44. <https://doi.org/10.1177/1461444811410394>
- Sherry, J. L., Lucas, K., Greenberg, B. S., & Lachlan, K. (2006). Video game uses and gratifications as predictors of use and game preference. In *Playing video games: Motives, responses, and consequences* (pp. 213-224). <https://doi.org/10.4324/9780203873700-22>
- Sihvonen, T. (2011). *Players Unleashed! Modding The Sims and the Culture of Gaming*. Amsterdam University Press. <https://doi.org/10.5117/9789089642011>
- Siitonen, M. (2007). Social interaction in online multiplayer communities. *Jyväskylä Studies in Humanities*, 74. <https://jyx.jyu.fi/bitstream/123456789/13444/1/9789513929312.pdf>
- Smed, J., Hakonen, H., & Mäyrä, F. (2002). Online games: A new social experience. In M. Copier & J. Raessens (Eds.), *Level up: Digital games research conference* (pp. 248-262). Utrecht University.
- Snodgrass, J. G., Dengah, H. J. F., & Lacy, M. G. (2014). Online gaming involvement and its positive and negative consequences: A cognitive anthropological “cultural consensus” approach to

psychiatric measurement and assessment. *Computers in Human Behavior*, 31, 307-321.

<https://doi.org/10.1016/j.chb.2013.10.011>

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>

Steinkuehler, C., & Duncan, S. (2008). Scientific habits of mind in virtual worlds. *Journal of Science Education and Technology*, 17(6), 530-543. <https://doi.org/10.1007/s10956-008-9120-8>

Stets, J. E., & Burke, P. J. (2000). Social identity theory and self-categorization theory. *Social Psychology Quarterly*, 63(3), 224-237.

Sweetser, P., & Wyeth, P. (2005). GameFlow: a model for evaluating player enjoyment in games.

*Computers in Entertainment (CIE)*, 3(3), 3-3. <https://doi.org/10.1145/1077246.1077253>

Thompson, C. (2008). *Brave New World of Digital Intimacy*. The New York Times.

<https://www.nytimes.com/2008/09/07/magazine/07awareness-t.html>

Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet*. Simon and Schuster.

Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books.

Vasalou, A., Joinson, A. N., Bänziger, T., Goldie, P., & Pitt, J. (2008). Avatars in social media:

Balancing accuracy, playfulness and embodied messages. *International Journal of Human-Computer Studies*, 66(11), 801-811. <https://doi.org/10.1016/j.ijhcs.2008.08.002>

Voida, A., Carpendale, S., & Greenberg, S. (2010). The individual and the group in console gaming.

In *Proceedings of the 2010 ACM conference on Computer supported cooperative work* (pp. 371-380). <https://doi.org/10.1145/1718918.1718983>

Vygotsky, L. (1978). *Mind in Society: the development of higher psychological processes*.

<https://ci.nii.ac.jp/ncid/BA03570814>

Wellman, B., & Gulia, M. (1999). Net surfers don't ride alone: Virtual communities as communities.

In B. Wellman (Ed.), *Networks in the global village* (pp. 331-366). Westview Press.

Wohn, D. Y., & Lee, Y. H. (2013). Players of Facebook games and how they play. *Entertainment Computing*, 4(3), 171-178. <https://doi.org/10.1016/j.entcom.2013.05.002>

Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior*, 9(6), 772-775.  
<https://doi.org/10.1089/cpb.2006.9.772>

Yee, N. (2014). *The Proteus Paradox: How Online Games and Virtual Worlds Change Us--and How They Don't*. Yale University Press.

## Appendix A: List of Interviewees

Number	Name	Age
1	Stychainlo. F	24
2	Shadelio. C	18
3	ShaquillE. O	28
4	Stephany. O	33
5	Withney. N	30
6	Jeuel. C	25
7	Khadysia. R	25
8	Gaston. P	26
9	Altagracia. S	34
10	Marco. F	20

### Interview Guide

#### 1. Introduction and Background:

- Can you tell me a bit about your experience with multiplayer gaming environments?
- How long have you been involved in multiplayer gaming?
- What initially attracted you to multiplayer gaming?

#### 2. Understanding Multiplayer Gaming Environments:

- How would you define multiplayer gaming environments?
- Can you describe some of the common features or characteristics of multiplayer gaming environments?
- What are some examples of multiplayer gaming environments that you have participated in?

#### 3. Influence of Game Genre on Social Interaction and Friendship:

- How do you think the type of game genre influences the dynamics of social interaction within multiplayer gaming environments?
- Can you provide examples of how different game genres impact the formation of friendships?
- In your experience, are there certain game genres that are more conducive to forming friendships? Why or why not?

#### 4. Social Interaction within Multiplayer Gaming Environments:

- What role does social interaction play in multiplayer gaming environments?

- How do players communicate and interact with each other during gameplay?
- Can you share any memorable experiences of social interaction or forming friendships in multiplayer gaming environments?

#### **5. Formation of Friendships:**

- Have you formed any friendships through multiplayer gaming environments? If so, can you tell me about how those friendships developed?
- How do you maintain and nurture friendships that were formed through gaming?

#### **6. Impact of Offline vs. Online Multiplayer Gaming:**

##### Offline Multiplayer Gaming:

- Can you describe your experiences with offline multiplayer gaming? What games have you played offline with friends?
- How does offline multiplayer gaming differ from online gaming in terms of social interaction and communication?
- Have you formed any significant friendships through offline multiplayer gaming? If so, can you share a memorable experience?

##### Online Multiplayer Gaming:

- What online multiplayer games do you typically play? How do you interact with other players in these games?
- How do you perceive the social dynamics in online multiplayer gaming environments compared to offline settings?
- Have you made any lasting friendships through online multiplayer gaming? If yes, how do these friendships compare to those formed offline?

##### Comparison of Friendships:

- In your opinion, do friendships formed in offline multiplayer gaming environments differ in quality or depth from those formed online? Why or why not?
- Do you think the nature of interactions in offline vs. online multiplayer gaming influences the types of friendships that develop? If so, how?
- How many friends have you met through gaming?

##### Personal Preferences:

- Which do you prefer: offline or online multiplayer gaming? Why?
- Do your preferences for offline or online gaming impact the types of friendships you form or the social experiences you seek within gaming communities?

#### **7. Reflections on Identity:**

- How do you think multiplayer gaming environments influence your sense of identity or self-concept?
- Have you ever experienced any challenges or conflicts related to your identity within multiplayer gaming environments?

## 8. Conclusion and Reflection:

- Is there anything else you would like to add about your experiences with multiplayer gaming and friendship formation?
- How do you see multiplayer gaming environments evolving in the future, in terms of facilitating social interaction and friendship formation?

## Appendix B: Coding Tree

Themes	Subthemes	Initial codes
Gaming environment and structure	Different kinds of multiplayer gaming environments	30 seconds
		Playing Uno
		Couch co-op gaming
		Karaoke nights
		Game nights
		Rotaract activities
		Teambuilding
		Mario party with friends
		Rainbow six Gate
		apex
		Fortnite
		Fifa
		Mortal combat
	Attraction to Multiplayer gaming	The fact that I can play with multiple people
		Entertainment
		I know I'm going to have fun
		Competition at it best
		I'm seeing my friends
		Not knowing who's gonna be the winner
	Impact of those gaming environments	Stress Relief

Influence of game genre and social interaction		Emotional Regulation
		Confidence Building
		Imaginative Play
		Collaborative Efforts
	Preference for Online gaming	Physical Presence
		Social bonds
		Emotional Connection
		Group Activities
		Icebreaker opportunities
		Spontaneous Interaction
		shared experience
	Preference for offline gaming	Flexibility
		Accessibility
		Convenience
		Comfortable
		Continuous Interaction
		Game Variety
		Global Community
		Reduced Loneliness
	Different Game Genres	First-person shooters
		Competitiveness
		Working together while gaming
		Playing with internationals
		platformers
		MMO

		RPG
		Puzzle
		Boards games
		Card games
		Fighting
		Survival games
		Rythem games
		Sport
		Physical games
	Social Interaction Dynamics within Game Genres	goal-oriented interactions
		Teamwork
		Strategizing with each other
		Laughing with each other
		Communication
		Cooperative games
		Competitive games
	Deep Connections and Communities	Trust
		Hidden secrets that developers of the game leave, for other people to find
		Sharing personal information
		Giving advice to each another
		Receiving advice
		Problem solving together
		Wanting to keep the bond alive
		Want to be friends outside of



		gaming
Formation and maintenance of Friendships	Factors Influencing Friendship Formation in Gaming	Shared interest
		Inclusivity
		Inclusion of introverted
		Because of a specific game genre
		Team-based Collaboration
		Overcoming Shynes
	Strategies for Maintaining Gaming Friendships	Joining Guilds/Clans
		Community Events:
		Snap chat groupchat for gamers
		Whatsapp groupchat for gamers
		Via social media
		In chat XBox
		Streaming
		Screen sharing
		Discord
		Expanding social cirkels
	Challenges and Benefits of Online vs Offline Friendships	Communication Barriers
		Maintaining Consistency
		Trust issues
		Global Reach
		Safe Space
Personal Growth	Personal development	problem-solving

		strategic thinking
		Learning to be more talkative
		Learning to interact with other people
		Achieving advice
		Thinking outside of the box
		Patience
		Leadership skills
		Learning to listen
	The positive side of gaming environments	Skill Development and Learning
		Identity exploration
		Educational and Learning Opportunities
		Makes gamers happy
		Not being alone
		togetherness
		Makes me energetic
		It's fun
		relaxation
		Always hyped
		New personality comes out
	The negative side of gaming environment	Toxic behaviour
		arguing
		Expressing Frustration
		Expressing Negative emotions
		Competitiveness in a negative way

		Rasism
		Adaptation to Hostile Atmosphere
		Community Norms and Expectations
		Long-term Effects and Resilience
		Stress

# CONSENT REQUEST FOR PARTICIPATING IN RESEARCH

## FOR QUESTIONS ABOUT THE STUDY, CONTACT:

[Student's name, EUR student email address]

## DESCRIPTION

You<sup>4</sup> are invited to participate in a research about [topic of the study]. The purpose of the study is to understand [RQ in lay language].

Your acceptance to participate in this study means that you accept to [participate in a survey / participate in an experiment / be interviewed / be part of a focus group / be observed while you X]. In general terms,<sup>5</sup>

- - [in the case of survey/interview/focus group] my questions will be related to XXX
- - [in the case of experiment] your participation in the experiment will be related to XXX
- - [in the case of participant observation] my observations will focus on XXX

Unless you prefer that no recordings are made, I will make [an audio / a video] recording of the interview / focus group.

I will use the material from the interviews and my observation exclusively for academic work, such as further research, academic meetings and publications.

**RISKS AND BENEFITS** [alternatives A and B are presented below, but there may be further variations]

A. As far as I can tell, there are no risks associated with participating in this research. I will not use your name or other identifying information [such as XXX] in the study. To participants in the study will only be referred to with pseudonyms, and in terms of general characteristics such as age and gender, etc.].

B. I am aware that the possibility of identifying the people who participate in this study may involve risks for ... [Explain potential risks for the participant's reputation, help, social relations, etc.]. For that reason—unless you prefer to be identified fully (first name, last name, occupation, etc.)—I will not keep any information that may lead to the identification of those involved in the study. I will only pseudonyms to identify participants.

You are always free not to answer any particular question, and/or stop participating at any point. [If participant observation is involved]: Every time I want to accompany you in any activity (such as XX, XX, XX), I will ask you your permission again.

## TIME INVOLVEMENT

Your participation in this study will take [approximate amount of time]. You may interrupt your participation at any time.

## PAYMENTS

<sup>3</sup> This Word template is available on Canvas (BA Thesis Class CM3051; Premaster Thesis Class CM0053 and CM0054; Master Class CM4500; Master Thesis Project CM5000; Master Thesis Project CS5050).

<sup>4</sup> In the case of minors, informed consent must be obtained from the parents or other official carers. They will have to sign this form. Please make sure to adjust this form accordingly. Even if/when consent has been provided, children should never be forced to participate or to continue participating.

<sup>5</sup> Select what is appropriate.

There will be no monetary compensation for your participation.

## PARTICIPANTS' RIGHTS

If you have decided to participate in this project, please understand that your participation is voluntary, and you have the right to withdraw your consent or discontinue participation at

any time without penalty. You have the right to refuse to answer particular questions. If you prefer, your identity will be made known in all written data generated by the study. Otherwise, your individual privacy will be maintained in all published and written data resulting from the study.

## **CONTACTS AND QUESTIONS**

If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact —anonymously, if you wish— [contact person in the dept., faculty or university, e-mail address.]

## **SIGNING THE CONSENT FORM**

If you sign this consent form, your signature will be the only documentation of your identity. Thus, you DO NOT NEED to sign this form. In order to minimize risks and protect your identity, you may prefer to consent orally. Your oral consent is sufficient.

I give consent to be recorded during this study:

Name	Signature
Date	

I prefer my identity to be revealed in all written data resulting from this study

Name	Signature
Date	

This copy of the consent form is for you to keep. <sup>6</sup>

<sup>6</sup> Two copies should be made for each subject: one for the subject to keep and one for the student's records.