

**FEMALE GAMERS' PERCEPTIONS OF THEIR MENTAL HEALTH
INFLUENCED BY THE ONLINE GAMING SPACE**

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ABSTRACT

Video games have become an increasingly popular form of entertainment that can now allow for social bonds to be established and can contribute to an individual's mental health. This thesis investigates female gamers, and their perceptions of how online gaming may affect their own mental health (n= 197). Previous research has found that female gamers are often treated differently in games based on their gender identity. Utilizing mixed methods, this study furthers the exploration of female gamers' mental health as they interact with other players during online multiplayer games. Findings suggest that the purpose of the game interactions, views about the community, and the motivations of female gamers determine the effect that negative player-to-player interactions may have on their perceptions of stress levels, loneliness, and social support.

PREFACE

This thesis is an original work by Andrea Fong as a requirement to complete the Master of Education- Counselling Psychology program at the University of Lethbridge. No part of this thesis was previously published. This thesis has been approved by the University of Alberta research ethics office under the name: “The Female Gamer and Mental Health”, ID. Pro00121112 (November, 2022).

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LIST OF DEFINITIONS

Gamer: a person who plays games, especially computer or video games (Dictionary.com, n.d.)

Gaming: the practice or activity of playing computer or video games (Merriam-Webster, n.d).

Gendered Gaming: when a player is treated differently in-game or assumed to have certain traits due to the other party or other parties acknowledging the gender or sex of the player (Morgenroth et al., 2020)

Multiplayer Games: games that allow for multiple players to interact with each other. This is often done through an internet connection (IGI Global, n.d.)

Non-playable characters (NPC): characters within the game world controlled by artificial intelligence (AI) that can create a rich human experience of talking or interacting with the player (Techopedia, 2011)

Online Gaming: having an internet connection with the ability to interact with other individuals on the internet playing the same game (Internet Matters, n.d.)

Offline Gaming: when the gameplay restricted to an individual's personal computer or device without the need for the internet (Skentelbery, 2022)

LIST OF ABBREVIATIONS

AI	Artificial Intelligence
FPS	First-Person Shooter
MMORPG	Massive Multiplayer Online Role-Playing Game
MOBA	Multiplayer Online Battle Arena
MMO	Massive Multiplayer Online
MUD	Multi-User Dungeon
NPC	Non-Playable Character

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CHAPTER 1: Introduction

Games have been used as a form of entertainment for centuries. The first game, Mancala, dates back to 700 AD. Today, games are designed to reach a wide audience, catering to different interests, maximizing an individual's potential, and making people happy (McGonigal, 2011). In the last two decades, the popularity of playing games increased with the emergence of digital and online games. As online gameplay increased in popularity, researchers began to study the impact of online gameplay on mental health.

In online multiplayer games, millions of players interact with each other, team up with each other, and compete against each other in online games. One example of a popular online game is Final Fantasy XIV© which has over 2.49 million players alone (Doke, 2021). The game originated in Japan, and its popularity has spread to North American and European populations (Messner, 2020). While working together in the game environment, players can create a shared experience that can build powerful bonds that can help build resilience, cope with stressors, and satisfy the need to belong.

Although men and women play online games in relatively equal numbers, playing online games is a hobby culturally associated with males (Kirkpatrick, 2017). For example, the term gamer refers to “an individual who plays games, especially video games” (Dictionary.com, n.d), but women are not necessarily usually called “gamers” but rather “female gamers” (Hunt, 2020). Because playing video games is often considered a masculine activity, women have found themselves unwelcome in the space and in the activity (Austin, 2022). Studies have found that women are often victims of isolation, loneliness, cyberbullying, stalking, and aggression within online games (McLean & Griffiths, 2018; 2019; Naidoo et al., 2019; 2020). When games are

supposed to provide stress relief and opportunities for creating social support, female gamers may lose a potential resource that could help them escape or find relief from the real world (Krassen & Aupers, 2022; Monge & O'Brien, 2021).

Given the increasing numbers of female gamers, it is important to understand female gamers' experiences in online games and how gameplay might impact their mental health within the Western context. The following questions will help focus the exploration of the topic.

Research Questions

1. How do player-to-player interactions impact female gamers' perception of their personal mental health?
2. How do player-to-player interactions (in-game play) affect female gamers' perception of their feelings of stress?
3. Do player-to-player interactions affect the female gamer's perception of loneliness and social support?

I predict that female gamers who identify that they are harassed due to identifying as female in-game will perceive their mental health more negatively while feeling lonelier and more stressed after a gameplay session.

CHAPTER 2: Literature Review

This thesis investigates the relationship between player-to-player interactions in online gameplay and the mental health of female gamers. The literature review will begin with a brief discussion of the popularity of gaming and present the fundamentals of online gaming. Next, gaming in a multiplayer space, an overview of gaming and individual mental health, and the effect of gaming on female gamers differently than male gamers will be presented. Mental health relating to loneliness, social support, stress, and coping is explored.

The Popularity of Games

When the world locked down due to the COVID-19 pandemic, there were limited options that people had when it came to entertainment. With more time spent indoors than outdoors, there was a surge in online gaming to cope with the stress of the pandemic (Higuchi et al., 2020; Pearce et al., 2021; Witkowski, 2021). A worldwide survey conducted by Statista (Clement, 2021b) found that 60% of players were playing more online multiplayer games since COVID-19. The World Health Organization (WHO) even encouraged online gaming through the #PlayApartTogether campaign to help maintain relationships and connections with friends in a safe, socially distanced activity (ADL, 2020). However, the pandemic was just a small step in adding to the already accelerating growth of the gaming industry. One of the major contributors to its growth was the advancement of technology, specifically mobile technologies, and the conveniences they provided. As digital technologies became more available, online gameplay became more available to the masses.

Specifically, the internet provided an online distribution of games which allowed for exponential growth in the market (Jöckel et al., 2008; Li et al., 2020; Witkowski, 2021).

The video game industry generates billions of dollars each year, with player counts to 23 million, with more than 65% of Americans playing video games (Prochnow et al., 2020). The gaming industry is larger than the live music and Hollywood movie industry combined (Witkowski, 2021). Moreover, video games are now largely ingrained in North American culture and expanding further into the rest of the world (Guttmann, 2022).

Notably, the influence of video games has been so extensive that other media categories have latched on to the names and titles. Movies and television series ride upon the name of video games to develop their content. Arcane is a Netflix series based on the popular online game League of Legends; it has drawn fans from its video game fanbase and fans outside of the game. Through their success, games were seen as a cultural phenomenon that can connect individuals outside of the gaming community (Tassi, 2021). Online games like League of Legends or World of Warcraft can be accessed by a larger portion of the population compared to games that are played offline or without the internet. World of Warcraft alone has over 1 million players daily (MMO Populations, n.d). Given the popularity of online gaming and its potential impact on individual players, exploring players' perceptions of the gaming community on player mental health is a worthwhile study. Further, focusing on female gamers has merit as they are an increasing market.

Defining Gaming

The term for “gaming” originated as a term to refer to entertainment activities with elements of chance and stakes. Then in the late 1900’s, the term was reinvented to also apply to board games and led to its eventual inclusion of video games (Diamond, 2023). While gaming may be referring to gambling, the term gaming can also be used to describe the act of playing online video games and interacting with other players. Additionally, the term “gamer” may also

be associated with gambling. During a similar time to when the term “gaming” included board games and video games, the term “gamer” was also used for players of those games (Wilaert, 2020). For this study, “gaming” will follow as “the activity or practice of playing video or computer games” (Merriam-Webster, n.d) and “gamer” will be used to describe those who are involved in gameplay.

Basics of Gaming

There are typically two modes of gameplay: online and offline play. Both modes of gaming can provide the experience of computer-human interaction through non-playable characters (NPC).

The goals of NPCs include but are not limited to, being opponents to the player, acting as a helper or guide in the world, being part of a puzzle, or telling a story. The AI creates an illusion of intelligence. However, because AI cannot mimic or adapt to every player’s input, it is often seen as lesser than humans for being only able to think and not feel (Bakpayev et al., 2022; Lim & Reeves, 2010; Yannakakis & Togelius, 2018). NPCs are also limited to the coding and or engineering of the AI technology. As a result, there is a preference for players to want to play with other real-life players and not AI-controlled ones (Kaye, 2021; Weibel et al., 2008). This can be considered a limitation of offline gaming, which creates a single-player experience in comparison to a multiplayer experience that online gaming has as a feature and a convenience. If there are two computers or devices that can connect within the same space, multiplayer can be achieved for offline gaming. However, multiplayer through offline gaming is limited as it cannot accommodate player-to-player interactions across geographic distances.

Massive Multiplayer Online Role-Playing Game (MMORPG)

Recently, there has been a push for online gaming over offline gaming because of the desire to replicate multiple face-to-face human interactions (Yannakakis & Toeglius, 2018).

MMORPG consists of a virtual environment where an individual can design a character and play as them from behind a computer screen (Barnett & Coulson, 2010). This genre best replicates real-world aspects, including human interactions; World of Warcraft is an MMORPG that has been studied extensively in terms of economics through the trading, bargaining with the in-game, currencies and exchange of items provided by the systems (Kock, 2008). Research into MMORPGs has not only been able to investigate simulated economies through the virtual world, but they have also been able to look at the relationships and social life built into the game. For players, being in a game within a guild or group has a comparable effect to being at a gathering in a cafe or beer hall in real life (Snodgrass et al., 2017). This suggests that an individual can have the same mental stimulation from interacting with people online as they would be interacting with people in real life.

Types of Game Players

Bartle (1996) suggested that there are four primary types of players for multi-user dungeons (MUD) -the predecessor of MMORPGs. There are achievers, explorers, socializers, and killers, which symbolize the different motivations that players can have when playing games.

Achievers are seen as individuals who value succeeding in the game using the rules and mechanics found within. Witnessing the signs of success or acquiring proof of success can be presented as psychological ownership (Wang et al., 2021); the proof of success can come in the form of exclusive character cosmetics, special video game scenes, more gameplay, highly developed characters, or even a virtual badge of honour for reaching a certain level that the public can see. Similar to how highly educated individuals show their diplomas or certificates,

game achievers will show off their hard work or dedication. Game achievements and successes bring immense joy and happiness that leads to players continued gaming (Cruz et al., 2017).

The second type of player is an explorer. Explorers value immersion in game worlds. They want to see all the content that the game developers have programmed, and they are especially drawn to secrets and the joy of discovery. Both the achiever and explorer focus more on their interactions between themselves as a player and the computer or developer. The socializer and killer, however, focus more at the social aspect and the interactions between players (Bartle, 1996).

Socializers enjoy cooperation and developing their social network in game, which makes multiplayer online games especially attractive to them. Examples of socializers might include individuals in Facebook games who water a neighbour's or friend's crops, players joining a guild in an MMORPG or chatting to strangers in-game. In comparison, the killer has less pro-social motivations. Killers are individuals who are more often motivated by competition, being disruptive to other players' in-game experiences and are identified as prioritizing "victory" or winning the game. Killers are comparable to achievers but with more focus on player-to-player interactions. Killers may be found in a broad genre of games, but they are also more likely to appear where gameplay promotes competition, such as multiplayer online battle arena (MOBA) (i.e. League of Legends© and Dota 2©) or first-person shooter (FPS) games (i.e. Call of Duty©) (Barnett & Coulson, 2010). Researchers have found that understanding these four types of motivations can help identify game personalities and in-game interactions (Bean & Groth-Marnat, 2016; Worth & Book, 2014). Yee (2006) expanded upon Bartle's model, where individuals are categorized by achievement, social, and immersion. In understanding player types, Steinkuehler (2006) explained that these motivations may create tension. When differently

motivated individuals are all grouped, they can recreate social situations that can be less restrained than in real life, primarily due to the anonymity that the virtual world presents (Le Hénaff et al., 2015).

Anonymity in Game Play

Anonymity within the online community allows individuals to express themselves without dealing with the consequences in real life. Individuals can present themselves with different personas through their characters or they may interact with other players through the chatroom in a way that may not align with how they interact with people in the real world (Gray & Huang, 2015). Research has found that anonymity can create a hostile environment for some gamers, but they can also be a source of empowerment for individuals who are less socially inclined who wish to be a part of a community (Gray et al., 2020; Martoncik & Loksa, 2016).

Personalities and player types may clash as virtual communities allow for social dialogues between individuals from diverse backgrounds and geographic locations. Yet, individuals can also find solace in these strangers whom they would not have been able to encounter in real life due to distance and other barriers. As such, they may be able to find groups of people that they can connect with to fulfill a need for belongingness and happiness (Le Hénaff et al., 2015; McGonigal, 2011).

Online Gaming and Social Interaction

Communities or groups of individuals banding together are typically individuals with a common interest. Online multiplayer games can elicit the feeling of a community through the shared interest in the game and the opportunity to collaborate to achieve an objective within the game (Kort-Butler, 2021; McGonigal, 2011). The social aspect is an identifying feature of online

multiplayer games and can provide individuals with a way to expand their social network, which can reduce their loneliness and provide individuals with a way to cope with stress.

Players can coordinate with each other using the in-game chat that can broadcast to the players in the area, friends, specific individuals, and even groups of individuals in a team. An analysis of the MMORPG, *EverQuest* ©, found that one appeal of the game was the opportunity to cooperate with others to overcome challenges and create meaningful friendships (Chappell et al., 2006). Through shared positive and negative experiences, players received emotional support, information, attention, and positive energy in their interactions (Heng et al., 2020; 2021). The virtual community created through *EverQuest*© was able to act as a coping mechanism for individuals struggling with stressful events in their personal lives.

The experience of creating a virtual community is not just playing through the games. Additionally, the game can become a hobby or conversational tool that brings people together. Youtube and Twitch have established and popularized game streaming platforms. Individuals can play video games in real time and chat with their viewers. Lufkin (2020) reported that participants who fulfilled their need to interact with others by playing games during the pandemic, intend to continue to play games after the pandemic. The continuity of gaming has allowed individuals to fulfill social needs, especially during the pandemic when human affiliation and social support were weak due to self-isolation and rules (Giardina et al., 2021).

Mental Health and the Gaming Community

It is important to state that mental health is not to be misunderstood as mental illness. While poor mental health can lead to mental illness, the concepts are different. Mental illness is defined as intrusive thoughts, feelings or perceptions that affect an individual's functioning (American Psychiatric Association [APA], 2018). Mental health is described as a state of well-

being which allows an individual to be able to cope with stresses in life ([WHO], 2018). The Canadian Mental Health Association [CMHA] (2020) describes the state as “not just about surviving, it’s about thriving”. To have good mental health, three common factors are defined: “strong relationships,” “feeling connected to others,” and “coping with stress” (CMHA, 2020). Online gaming presents individuals with the opportunity to engage in self-discovery and create social networks that could be positive resources for escaping loneliness and stress which are related to the factors of good mental health (Przybylski et al., 2012; Wan & Chiou, 2006a; Wan & Chiou, 2006b). However, the virtual world may also act as a double-edged sword, as it can heighten feelings of isolation and can be emotionally triggering for individuals if they experience hostile environments (Greg & Huang, 2015; Lee et al., 2019). The next section reviews theories of loneliness, social support, and stress and explores how gaming might impact these areas of mental health from a sociocultural theoretical framework.

Sociocultural Theory

Vygotsky (1934;1978) is the founder of the sociocultural theory that explains that human development is largely due to dialogues with other humans. He believed that social interaction and community were ways to inspire “meaning” into an individual’s life and thus determine their values. As mentioned previously, there are different player types who hold different values in interacting with others. One of the large perks of online gaming is being able to interact with other individuals, emphasizing the player types who seek achievement and socialization. Vilasís-Pamos and Pires (2022), found that individuals that build meaning can do so off of their consumption of media and a reflection of their peers, and family. The online video game environment is an addition to what may influence the thoughts, feelings, and development of an individual in consideration to their mental health.

Loneliness and Belonging

Belongingness is an essential aspect of human nature where being physically around people is insufficient because it also requires meaningful interactions to incite feelings of a connection (Cacioppo et al., 2015). The feeling of connection, trust, and empathy creates a space of warmth for an individual to feel safe and fulfilled (Rogers, 1961). Loneliness is defined as the gap between an individual's ideal social relationship and their subjective reality (Peplau & Perlman, 1982). Loneliness should not be mistaken for being isolated. Isolation may contribute to developing feelings of loneliness, but isolation can also be a personal choice which might not create the same effect (Zhang et al., 2021). The literature separates loneliness into two types based on the origin of the feeling: loneliness of social isolation and loneliness of emotional isolation (Rönkä et al., 2020; Weiss, 1973).

Social Isolation. Social isolation can occur even when there are other individuals around. It can occur due to symptoms of mental disorders or fear of not belonging and fitting in (Weiss, 1973). Individuals who spend an extraordinary time alone may manifest feelings of being an outsider in social groups like friends, even if they share common interests (Weiss, 1973). Loneliness from social isolation is common for individuals that have had to physically move away from locations of familiarity (Diehl et al., 2018).

Emotional Isolation. Emotional isolation occurs when an individual cannot express their emotions to others. It may occur due to social isolation, but it can also occur even when an individual has connections with others and is not socially isolated. An example of emotional isolation would be the death of a close individual, or a divorce (Weiss, 1973). Loneliness stemming from emotional isolation is more common than loneliness from social isolation (Diehl et al., 2018). Perception of loneliness can cause a wide range of effects that can lead to

dysfunctional habits and a rapid decline in mental health and physical health (Cacioppo et al., 2015). Loneliness has been defined as being a distressing and painful experience for humans (Peplau & Perlman, 1982). Before analyzing the interaction between loneliness and multiplayer online gaming, social support as it directly relates to an individual's isolation will be explored.

Social Support

Social support is defined as a relational transaction (Utz, & Breuer, 2017). It is not to be confused with social capital, which is a resource stemming from a social network. Social support is a possible effect coming out of social capital (Adler & Kwon, 2002).

Categories of Support. Cutrona and Suhr (1992) identified several primary categories of social support: emotional, esteem, tangible support, social network support, and informational. They suggested that the types of social support have varying degrees of helpfulness depending on the problem. In their study, Cutrona and Suhr (1992) grouped categories into action-facilitating support, which helped an individual solve the problem causing them stress, or nurturant support, which prioritized comforting and influencing the stressed individual's mental state.

Action-Facilitating Support. Tangible and informational support fall under action-facilitating support. Tangible will provide services or goods needed to help solve the problem. Informational support would provide advice, feedback, or information. Amongst online communities, informational support is more commonly seen than tangible support (Liu et al., 2022).

Nurturant Support. Emotional, esteem, and social network support fall under nurturant support which is more intimate as it builds on trust and relationships (Chuang & Yang, 2012). Emotional support is about providing words of comfort in the form of empathy or sympathy for

the stressed individual's circumstances. Esteem support promotes the stressed individual's self-efficacy and abilities through words. Finally, social network support is about being in a space with similar-minded individuals (Ko et al., 2013).

Social Support and Mental Health. Research on social support has shown that it is a factor in maintaining healthy global cognitive functioning in adults and adolescents (Kelly et al., 2017; Peñate et al., 2020). The various categories of social support as defined by Cutrona and Suhr (1992) have been shown to affect different levels of cognitive functioning. For example, deep levels of social support that target an individual's self-image such as self-esteem and emotional support help an individual develop resilience in the face of stress. The other categories have not been shown to have the same capabilities (Kelly et al, 2017).

Social support can help predict some parts of loneliness but not all (Utz et al.,2014). There is a limit to how much an expansion of a social network or the depth of nurturant can affect the feelings of loneliness, therefore they are observed separately.

Social Support in Online Environments. After the COVID-19 global pandemic, the research on social support in the online space developed rapidly (Cabiati, 2021; Liu et al., 2022; Roitman & Yeshua-Katz, 2022). The convenience of the online network allows individuals to not only connect with local familiar faces but also expand their social network globally. Online games act as one of the online networks that individuals can meet people. Online multiplayer games set an individual with other like-minded individuals, easily establishing social network support through the same interest in the game. Through their shared experience of completing objectives together, they have the opportunity to create a bond that is equivalent to one that is made offline in the physical world (Munn,2011; 2012).

Cole and Griffiths (2007) suspect that individuals with social anxiety or individuals with weak offline social support would get the most benefits from online support. Individuals who already have strong social support outside of the online world were found to have little to no effect.

Communication in Online Games. Online multiplayer games often offer several ways for players to communicate. Players can type through the chatbox, in-game instant messages, use third-party applications (i.e. Skype, Discord), or they can even use built in voice chat in games. These different modes of communication allow the individual to forget that they are in a room alone. The ability to communicate online in multiple ways is one aspect that makes online multiplayer games appealing to lonely individuals (Visser et al., 2013). The anonymity of the online environment also allows an individual to freely forge or detach relationships without detrimental consequences to the offline or real world self (Martoncik & Loksa, 2016). This is another appealing aspect to individuals-especially who are less socially inclined. If there is someone that an individual dislikes speaking to or interacting with there are many forms of disengagement. Lots of modern online games include a report button, which can call for a moderator to punish the individual who is acting inappropriately, or a mute button, which simply allows the player to ignore the individual in chat or call. These individuals have also found benefits in establishing in-game relationships when they cannot receive social support offline due to the ease of meeting people in a casual setting (Barnette & Coulson, 2010; Cole & Griffiths, 2007). Online games allow for individuals to create bonds built on deep empathy and trust without the individual having to be within a physical distance of another person.

The game world itself encourages the formation of bonds by providing opportunities for interactions with other players. Within MMORPG's, there are group-based objectives that

players can freely join. There are guilds which are groups of people that work together to provide in-game benefits to themselves or to find people to play with (Williams et al., 2007). These grouped individuals could be close friends, family members, or strangers that are halfway across the world. In these games, where the player can freely interact with the environment, there is both group and solo content, making it up to the player to choose to play with others or alone.

Online Game Play and Loneliness. Early literature has had trouble determining whether the internet positively or negatively influences loneliness because of the diversity of individual choices. Visser (2013) studied players engaged in World of Warcraft and found that the game had an indirect influence on loneliness. Players had a larger pool of possible friends they could make or people they could interact with, and it was found to have decreased loneliness (Barnett & Coulson, 2010; Visser, 2013). However, it should be noted that individuals who were found to have decreased loneliness tended to be more open to taking the initiative to meet other people. Further studies should seek to investigate how the individuals who do not speak or chat often would be affected by group content. More recent literature based on the MOBA game League of Legends found that when an individual has a large pool of players to interact with, they are less likely to be socially isolated (Petrosino et al., 2021). Within this same study, players who were more dedicated to the game were also the ones that had the strongest social bonds. The stronger social support network that a player can create, the increased likelihood they are to create a more enjoyable time and help manage stress.

Stress

Stress is a complicated concept because it encompasses a wide range of phenomena thus there is no definite agreed-upon definition. The basic common concept of stress is seen as an interaction between the environment and the individual where the individual feels mentally or physically imbalanced (Pahayahay, & Khalili-Mahani, 2020; Taylor & Aspinwall, 1996).

Folkman and Lazarus (1984) believed that individuals when faced with an event or daily stimuli in their lives go through a three-stage appraisal process. Primary appraisal is the initial stage of examining the event or situation and categorizing it. Secondary appraisal refers to an individual considering their available resources and perceptions of the situation. Finally, there is reappraisal which happens when an individual is cross-referencing with the current information.

An event or stimulus does not automatically give an individual stress. When the outcome of an event is negatively perceived by the individual being stimulated, the perception causes stress. Being negatively perceived can be when the individual perceives that the stimulus is beyond their resources. Common themes that make up stressful situations include a threat to the sense of self, novelty, or a loss of control (Canale et al., 2019; Pahayahay, & Khalili-Mahani, 2020). The same event or stimulus can have vastly different responses from different people, but several common responses include reacting with anger, nervousness, or panic (Folkman & Lazarus, 1984; Keller et al., 2011; 2012).

Both external and personal sources are possible causes of stress for an individual (Taylor & Aspinwall, 1996). External typically refers to anything within an individual's environment, including physical characteristics, societal demands, and cultural demands that may affect an individual in their daily lives. Personal sources are the internal processing of an individual, including their personality and what they value. Appraisal within this model is defined as the amount of stress an individual perceives.

Perception of Stress

Stress does not affect everyone equally. There are several closely intertwined topics: resilience levels, and coping strategies, which are involved in how an individual might understand and process their stress.

Resilience is generally defined by literature as the ability to be resistant and recover from stress (Hornor, 2021). An individual's level of resilience depends on internal protective factors (i.e. temperament, intelligence, or cognitive ability) and external protective factors (i.e. environment, activities or relationships). Individuals with low resilience and higher perceived stress are more likely to develop mental health disorders (Canale et al., 2019). Promoting resilience has been seen to have health benefits and is often done so through the intervention of resources from a societal level down to the individual level (Connor & Davidson, 2003, Hornor, 2021).

Several studies have investigated training individuals to become more resilient. Tichon and Mavin (2017) examined individuals who blogged about their gaming experiences and found that the role-playing experience within games helped individuals recover from negative emotions. The research also found that individuals were able to build confidence through achieving success and collecting achievements in-game. The built-up confidence contributed to internal protective factors, which lead to individuals being able to handle more stress offline. McInroy (2020) found that games can promote resilience by allowing individuals to have a temporary respite or an escape from stressors. Being able to escape from stressors can also be seen as a form of coping.

Coping

A broad definition of coping is how an individual might manage their cognitions or behaviours when faced with a situation where their resources are insufficient, or there is a conflict causing stress (APA, n.d). There are two types of coping strategies: emotional and problem-solving (Folkman & Lazarus, 1984). Emotional coping is an individual trying to reduce

the effects of the negative emotions being felt through stress. Problem-solving coping directly addresses the source of stress to make it disappear.

Coping through Game Play

Gaming has been shown to help individuals develop problem-solving skills, social skills and strategies to manage stress (Gee, 2005). Games are designed around a problem or a theme that the player explores through designated goals (Gee, 2006). Players can create a character that is in a game world, or they may be placed in the role of a character in a scenario to overcome challenges and problems that were designed by the developers. Tichon and Mavin (2017) found that players self-reported being able to build up their personal resources by internalizing the growth within a video game character as they traversed the in-game world from the game character's perspective. This research primarily looked at games that had an in-depth single-player role-playing story which can be extrapolated to MMORPGs which have similar content.

Another way that gaming helps individuals cope with stress is the ability for them to be psychologically detached from the real world (Giardina et al., 2021; Rieger et al., 2014). In this way, escapism can also help build resilience as it can also be used as a form of rest so that an individual can rebuild their cognitive resources (McInroy, 2020). Pearce et al. (2021) interviewed parents that were overwhelmed with taking care of their children while going to work during the pandemic. After a long day, they chose to wind down and cope with their stress by playing *Animal Crossing: New Horizons*©, a generally good feeling game with cute characters and player choice for how they interact with the environment. The gameplay, music, and overall tone have been tied to relaxation, which assists in relieving stress (Reinecke, 2009). There are also games that are not designed for a relaxing environment; instead, these games provide a form of escapism in their design by synchronizing with an individual's appropriate skill level so that they

are neither bored of the challenge nor finding the challenge too difficult (Barr & Copeland-Stewart, 2022).

Flow state is defined as the state of an individual's optimal functioning, where their brain cognitively works automatically (Csikszentmihalyi, 1975). In this state, the individual is in total concentration, that can be described as being "in the zone." The individual is wholeheartedly immersed in their experience. Individuals in the zone can be described as being self-motivated, self-directed, intensely interested, and genuinely enthusiastic, which allows the individual to reap emotional and social benefits (Csikszentmihalyi, 1975; McGonigal, 2011). Several studies have found that when players are in the flow state, they have the urge to keep playing, demonstrating that the flow state is a pleasurable state that increases an individual's mood, motivation, and enjoyment (Baumann & Engeser, 2016; Larche & Dixon, 2020). Being immersed in another world can lead to worry-free enjoyment, and they do not have to do it alone.

As online players have the potential to meet a wide range of other players to interact with, there is an increased likelihood of finding people that they resonate with. This increases opportunities for establishing deep bonds with others, ultimately fulfilling their need of belonging. Belonging can also help individuals manage stress and provide an individual with the social support to build resiliency and coping (Barnett & Coulson, 2010; Raith et al., 2021). However, there is a downside to gaming, as it can magnify the problems that an individual may have when interacting with the real world.

Negative Aspects of Gaming

Not all games are relaxing and promote resilience for players. Two common aspects that have been reported to cause discomfort for players are social pressure from the community, and engaging with disruptive behaviour (Zsila et al., 2022).

Group-based communities in-game can easily turn into social pressure to play. Often in multiplayer games, individuals will form groups to accomplish a shared goal because of their differing gameplay established by player choice. The limitations of multiplayer games are that each character is often designated into a specific job to maximize the efficiency of gameplay. Some jobs require that an individual support their teammates while other roles are specifically for taking down the objectives. Individuals may feel stressed from the social pressure to adhere to the guidelines of their specific role and may limit an individual from fully expressing themselves (Krassen, & Aupers, 2022). If individuals are not following the rules being set, they may become socially isolated, emotionally isolated, or may find themselves facing frustrated peers which can create a ‘toxic’ community (Krassen, & Aupers, 2022).

Another form of stress within games is disruptive behavior, which can cause irritation for the player and the community. It is seen more in MOBA or FPS because of its competition-motivating gameplay (Kordyaka et al., 2020). Games such as League of Legends© are known for having a community that verbally attacks others or uses negative behaviour that lowers morale (Lee et al., 2019). These individuals have been named as ‘trolls’ and they bully others, attempt to start an argument, or show aggressive behaviours. Under Bartle’s (1997) player types, they would fit in with social-based player types. Kordyaka et al. (2020) found that individuals who demonstrated disruptive behaviour did so due to perceiving a lack of restraint in communications. This can be attributed to the anonymity in the gaming environment (Lowry et al., 2016). When the stress of disruptive behaviour works together with the feeling of a loss within the game, it can decrease an individual’s sense of self-esteem and self-efficacy (Monge & O’Brien, 2022; Zsila et al., 2022). A survey found 16% of young gamers in the U.S reported treating the people around them worse than usual due to in-game harassment affecting their

mental state (ADL, 2020). Additionally, only 82% out of the 81 million American adults who experienced harassment in-game expressed that there was an impact on how they played online games (ADL, 2020). The primary features of online multiplayer games are the player-to-player interaction, and the statistics show that individuals can be greatly impacted by treatment online.

The community can be both a benefit and a detriment to an individual's mental health. But certain aspects from the real world will leak into online multiplayer gaming, which could bring about more stress. Discrimination and oppression can be more lethal, due to anonymity, and female gamers may have a challenging time entering the gaming space to relax or collect the benefits that come with gaming.

Gender Differences

People may assume that video games may affect women and men similarly. However, as with other areas of mental health research, the perception or connection to mental health varies for each gender (Currin et al., 2011). Perceptions of social support and mental health are seen as primarily due to the environment and cultural factors where gender roles are learned (Agrawal et al., 2002). Men tend to be socialized into being less in tune with emotions and feelings than women. They may have trouble recognizing certain mental health symptoms or they are unwilling to admit to it to find help or access resources (Rosenfield, 2006; 1999; Van Droogenbroeck et al., 2018). Loneliness, stress, and coping manifest differently in women who are socialized to be sensitive towards emotions and feelings. Van Droogenbroeck et al. (2018) in Belgium, found that men tended to externalize their mental health in the form of addiction or antisocial behaviour, whereas women internalized their mental health in depression or anxiety. In both cases, social support is one of the factors for individuals to recover from problematic symptoms (Cheng et al., 2014; Thoits, 2011). Within the gaming community, it can be harder for

women to find social support or perceive that they have high-quality social support due to problematic assumptions and the gaming culture (Hunt, 2020; Paaßen et al., 2017).

The Female Gamer

There is a growing amount of literature on how video games can affect an individual's internal state. Unfortunately, much of this research tends to have a biased sample where the female gamer sample is dwarfed by the male gamer sample (McLean & Griffiths, 2018; 2019). Today, many people rely heavily on technology, from reading books and watching movies, to engaging with essential services such as banking. With increased technology in our lives, it is reasonable to assume that there will be a manifestation of women who are more likely to use video games as a source of entertainment or comfort. From 2006 to 2021, the female gamer population increased from 38% to 45% of total players in the USA (Clement, 2021a). In this study, the terms female and women are used to describe identity. This accounts for nearly half of the playing population.

Women in the History of Gaming

The first video game was created by men for men as their military and combat-orientated themes were assumed to not appeal to the female population (Assunção, 2016; Kirkpatrick, 2017). When arcade games and the first console appeared in the 1980s, many were military-based games. These types of games implied that games were made for men rather than women due to the general opinion that girls were less violent than boys and more nurturing (Kirkpatrick, 2017). While the video game industry started around the 1950s, women officially became a part of that growing industry in the 1960s. The first female game designer was Mabel Addis, who was the primary writer for *The Sumerian Game*®, a popular text-based strategy game (Willaert, 2019). Women have been found to leave the IT industry, which includes the gaming industry,

45% more often than their male counterparts (Cveticanin, 2022). Moreover, Gamasutra's Game Developer survey showed that on average women made 86 cents on every dollar that men made as a game developer in the USA (Graft, 2014). Gender assumptions and inequality have prevented women from not just entering the video game and IT industries, but it has also made it harder for their work to be acknowledged (Drenten et al., 2019). This cultural barrier has persisted to this day, as female gamers do not consider themselves equal to their male counterparts in the gaming community (Kuss et al., 2022; McLean & Griffiths, 2018; 2019).

Gendered Gaming

Further emphasis on how women are viewed in gaming can be seen in their portrayal within games. Gender is a vital term because it demonstrates culture and roles in society that can determine what privileges or power they may have (Eidinger, 2021). It shows how individuals should be treated and how others 'should' react to them. When considering the sexualisation of female characters, they come in the form of two harmful themes: benevolent sexism, where the women are delicate, fragile or in need of saving, or they are portrayed as hostile sexism, where the women are seductresses who seek to control men through sex (Glick & Fiske, 2001). These themes are responses to women's roles in a society which can explain how other players may react to a perceived female gamer (Kelly et al., 2022). Content analysis over the years, has shown that sexualisation of female character has generally decreased which should be a hopeful sign in gaming culture (Lynch et al., 2016). However, Kelly et al. (2022) found that when other players perceived the other player as being 'female', they were receiving more negative feedback on their performance and seen as more incompetent in comparison to being perceived as male. Within this study there were both clips of a novice player and an expert player with only the voice being the difference. The results demonstrate that the perceptions of the community can

affect how a female gamer can be treated regardless of their skill level. On the surface level, games may be seen as being more progressive away-moving away from sexist gaming, but the damage from the years of that persisting culture remains within the interactions between players and perceived female players (Kelly et al., 2022; Kivijärvi & Katila, 2022).

Female Gamers

Women are often seen as non-traditional to the game setting. The persisting gender inequality is much more noticeable with modern technology when the term “gamer” refers to men only, while women are given the tag of “female gamer” creating a distinction between the two and potentially indicating the difference between how women are treated online versus how men are treated online (Assunção, 2016; Kuss et al., 2022). Whether the term “female gamer” or “gamer girl” incited gamers to treat women differently or vice versa remains to be unanswered. The gamer identity is as important to men as it is to women. The more hours invested into gaming habits the more likely individuals are open to talking about gaming as a hobby. It becomes a part of their values and has been found to have a slight positive effect on self-esteem. There is an assumption promoted by history and the media that female gamers are a rarity and not all of them identify as a gamer because they are under the assumption that to be considered a ‘gamer’ a certain number of hours needs to be played (Assunção, 2016; McKinnon-Crowley, 2020). Female gamers themselves tend to underestimate the number of hours they play. Including the emphasis that women play fewer games, they may have also come to believe that they are in the minority of the gaming population (Hunt, 2020). As a result, women who reveal that they are a female gamer in-game tend to be treated like a minority or as a rarity.

Communication online, as mentioned previously, can be done through voice chat-exposing the sex of an individual gamer. The tone an individual uses to talk through text chat

may also expose that the gamer is 'female' which can lead to polarizing interactions with an underlying emphasis on sex (Kirkpatrick, 2017; McLean & Griffiths, 2018; 2019).

Harassment and 'Toxic' Behaviour towards Female Gamers

In games with more violent content, such as MOBAs or FPS, studies have previously found that it was a way for players to practice masculinity (Austin, 2022). Jansz (2005) explored how male adolescents have been cultured into not expressing their emotions in real life due to the possibility of permanent consequences on their social life. They are not allowed to explore fear or envy because these traits would be looked down upon. They are uncertain about their emotions as they come to a part in their life where they can think and conceptualize the abstract. This creates a state of confusion for them because they lack an area to vent or express themselves. This leads to disruptive behaviour such as "trolling"; an individual becomes highly motivated by competition and aggression as the online space has been socialized into being a place that encourages aggressive behaviours (Lee et al., 2019). Although trolls were not identified by Bartle (1996), it can be assumed that they would be placed alongside socializers and killers because they require interactions with other players. Minorities are often the target of this harassment, including women who in numbers alone would not be considered a minority but are treated as one. A survey on harassment in online multiplayer games has found that 41% of women have experienced harassment for their gender or sex (ADL, 2020). Within gaming, transgender or alternate identifications were not examined in a lot of the literature. In general, online interactions, individuals who identify as non-conforming to the two genders male or female were found to face more harassment and discrimination than those that did (Evelyn et al., 2022). This phenomenon can be further explored in online gaming for individuals that may

identify as female being transgendered or are perceived as female when they identify as an alternate label.

Sexual harassment comes from both within the gaming industry as well as the common online gaming experience. Common examples of harassment within the online gaming space include sexualized insults, threats of assault, and coercion (Pina et al., 2009). Women were often seen as being an invader in the masculine space and these insults were used to establish a hierarchy or to force women to leave (Austin, 2022; Cote, 2017; McLean & Griffiths, 2018; 2019). Sexual harassment in the gaming environment has been compared to male-dominated workplaces in real life where men are consciously or unconsciously trying to protect their social identity (Cote, 2017). However, unlike the workplace, the online space is primarily anonymous making it the perfect place for targeting the vulnerable minority without long-term repercussions (Paaßen et al., 2017). A study found that men were more likely to commit sexual harassment than women when participating in online gaming which supports the idea that it is a gendered experience (Tang et al., 2020).

Men isolating women is not the only problem. Surprisingly, many women in a study done by McLean and Griffiths (2018; 2019) found that women treated each other poorly in-game as well. Friendships were harder to develop for female players. Discussion within the study perceived the problem as women wanting to feel special in a male-dominated game thus they would act negatively towards other female gamers. As a result of this harassment, women are more likely to leave or avoid a game (Fryling et al., 2015).

The harassment of women within gaming is distressing as it affects a woman's self-efficacy and confidence. Women in video games were found to play primarily passive roles where their job is to assist the male player in an objective. When playing with men they were

less confident in their skills (Austin, 2022; Choe et al., 2019; 2020). Female gamers end up internalizing the treatment they are shown in this virtual space and as a result, they end up with a lower sense of self (Paaßen et al., 2017; Zsila et al., 2022). To protect themselves in the masculinized space, female gamers have developed specific coping mechanisms (Cote, 2017).

Female Gaming Coping Techniques

Fornes-Vives (2016), found that women tend to use emotional coping more than men which means that much of their emotions are thought about or internalized rather than expressed through behavior. The problem is not going to go away but their emotional state does not completely break down because emotional coping means having internal strategies to regulate their emotions to protect their values and sense of self. Through the qualitative research on female gamers, several techniques have been identified as being common coping mechanisms when faced with uncomfortable player-to-player interactions.

Avoidance. The most common way for women to cope with the negative atmosphere in gaming is to avoid it completely (Fox & Tang, 2017). This can involve disengaging with the game, masking one's gender identity, or by ignoring the crowd that would be giving her trouble while she is trying to play. Online game features allow players to mute each other and even report them to an administrator in hopes that the bully will be punished.

Skill Demonstration. It is common for female gamers to spend comparable times playing online video games as men and this leads to an also comparable skill level. Some female gamers go out of their way to show confidence and disapprove of harassment through their skills in playing the game. Cote (2017) has found that this is the most difficult coping strategy as it requires constant dedication just to stay ahead of the game than others. Similar to the workforce women have to “prove” themselves in order to interact in a masculine environment.

Personality strategies. Women may adopt personas just so that they can interact with other players in the same environment. Aggressive behaviour with profanity and insults can act as a deterrent towards harassment, although it would also lead to being socially isolated. Flirting with an aggressor is also a tactic although it has been commented to be used less often as it attracts unwanted attention that differs from hostility (McLean & Griffiths, 2018; 2019).

Fox and Tang (2017) found that these strategies were only useful for the short-term, furthermore, some female gamers would internalize the online harassment. Internalization of these negative thoughts can affect an individual's mental state and attack their sense of self when chipping away long enough. If the self is lowered there is more of a chance that women could develop depression, anxiety, and other mental distortions (Tahmassian & Jalali Moghadam, 2011). Women may be motivated to play games to relieve themselves of stress, however, being in the video game environment might do more harm than good (Austin, 2022). Gaming is becoming so prevalent that it is necessary that the cyberspace environment is welcoming to all so that everyone benefits from the act of gaming to achieve wellness and happiness. What can foster change is the promotion of an inclusive online gaming community so that these strategies would not be necessary. The exploration of the female gamers' perceptions of their mental health would help bring about awareness needed for change in the gaming culture.

Current Study

This current study will further delve into the effects of online gaming on the mental health of female gamers. McLean and Griffiths (2018; 2019) researched the experience of female gamers by analyzing forum discussions. This study further expands on the research by exploring female gamers' perceptions of their in-game interactions. As previously mentioned, women are socialized into being more perceptive of emotions and feelings which allows them to describe

themselves with more depth (Rosenfield, 2006; 1999; Van Droogenbroeck et al., 2018). How might their interactions with other players in the game impact their perception of their mental health?

The next chapter will discuss the methodology and the process of the study.

CHAPTER 3: Methods and Participation

The current study was a mixed-method, cross-sectional, non-parametric study following an explanatory sequential design. Both quantitative and qualitative data were gathered. From the data collected and analyzed, the study answered the question of how player-to-player interactions in the online gaming environment affect female gamers' perceptions of their mental health.

Participants and Recruitment

Female gamers were invited to participate in the study through a wide range of online social media platforms. There was no restriction on the location of participants. Participants were required to be 18 years of age or older to participate and be able to read and communicate in English. All participants were expected to either be playing or have played an online game where there was the opportunity to interact with other players over the internet. The minimum goal of participants collected for the Internet survey was about 100. At the end of the survey, participants were invited to provide an email to partake in the second part of the study. To protect their anonymity, only email addresses were collected and assigned a corresponding number. From those who identified interest and willingness to participate in a follow up interview, five participants were randomly selected. Due to the limitations of resources with the study more interviews could not be conducted.

The participants were recruited through the following social media platforms: Facebook, Twitter, Steam discussion forums and the most popular MMORPGs and MOBA discussion

forums. The supervisor used her personal Facebook and Twitter to post the invitation to the study. The primary researcher created an account on Twitter, Tumblr, Discord, and Reddit to post the invitation. After getting an appropriate sample size for both the survey and the in-depth interview, the invitations were closed.

Instruments

Online Survey. A Qualtrics survey that was created by the primary researcher consisted of multiple-choice questions. To create the survey, the researcher reviewed De Jong's loneliness scale, the online social support scale and the perceived stress scale were considered (Cohen et al., 1983; De Jong Gierveld, & Van Tilburg, 2006; Nick et al., 2018). However, the lack of specificity towards the experiences of female gamers that were identified in previous qualitative studies made the surveys unable to answer the research questions developed for this study. Therefore, an original survey was developed by the primary researcher by exploring the above-mentioned surveys and creating survey questions that would specifically help answer the research questions.

The survey was widely distributed throughout the internet for convenience sampling. Spellecy and Nelson (2021) found that there may be a limitation of problematic selection bias when it comes to internet surveys as not all individuals would access a certain forum or a social media platform. To combat this limitation, the survey will not focus on one specific platform as previous studies have done (McLean, & Griffiths, 2018;2019; Kuss et al., 2022). Multiple platforms will be utilized to advertise the survey as listed in the participants' section. Individuals will then click on the link to access the consent form before proceeding to the survey.

The survey itself was a mixture of Likert scales and close-ended questioning that were all designed by the primary researcher and had not been utilized before. Likert scales measure the

agreement and disagreement of certain events and topics (Likert, 1932). The survey took approximately 10-15 minutes to complete.

Demographics. The first nine questions examined the female gamer's demographics. Participants were asked to select their appropriate age group given the following choices: 18-25, 26-33, 34-41, 42-49 and 50+. Then their gender identity was clarified as being a cis-female, transgender, or gender-fluid. Afterwards, they were given options to identify their ethnicity: Caucasian/European Descent, Black, Indigenous, Latino or Hispanic, Asian, Native Hawaiian/Pacific Islander, or mixed. Next, a question on their highest degree of education or level of education from elementary, some high school, high school, diploma, bachelor's, master's, PhD equivalent or trade school. Then the survey inquired about the amount of time an individual spends playing online games weekly and whether they might binge hours rather than playing consistently. Afterwards, the last two questions within the demographics explored what games the participant plays and the game that they play the most often. A descriptive analysis explored the potential circumstances that would shape a female gamer's experience and perception of online multiplayer gaming.

Gendered Treatment. Questions 12-14 sought to highlight whether participants perceived different experiences upon revealing their identifying gender or sex in the game. The first question sought to identify whether participants were asked about their gender or sex in-game. Then questions 13-15 explored whether female gamers received more positive experiences, which included compliments and supportive behaviour. Participants were then asked if the game becomes more enjoyable when players know their gender or sex. Questions 16-17 looked at whether participants received a more negative experience upon revealing their gender or sex. This included being assumed to be not as good at the game in comparison to their male

counterpart or having their opinions or ideas dismissed. The last question of this section was used as a reversal and asks whether players perceive the participant as being good at the game due to their gender or sex.

Community Interactions. Questions 19-26 sought to explore the female gamer's perception of their online gaming community and whether they think that the community can act as a social support when they are faced with a negative experience. More specifically, how did female gamers perceive their safety and comfort in online community environments? The first question addresses whether a female gamer has been harassed or called rude names because of their gender or sex, regardless of their play competency. Questions 20 and 22 addressed how stressed and safe they felt when they revealed their gender. This section explored whether the participants trusted their gaming community or moderators to police the community when they felt uncomfortable about the actions of others, whether they felt the gaming community was inclusive, whether they could rely on the community to protect them, and whether they were willing to share personal problems with the gaming community.

Coping Styles. The next questions inquired about the behaviour of female gamers. As mentioned earlier, several coping styles are commonly used by female gamers in the online gaming space (McLean & Griffiths, 2018; 2019). Participants were asked to align themselves with several common coping actions if relevant: active avoidance of gaming communities that were known to be unfriendly, hiding one's gender, hiding one's sex, acting more aggressive than in real life, acting tougher than in real life, and playing a male avatar over a female avatar. When asked about playing a male avatar, a secondary question looked at the reasoning for choosing a male avatar over a female avatar. Not all choices in using a male avatar were related to coping within the gaming community. Along with the male avatar question, usernames could have also

been a way to hide one's gender or sex, so the question asks whether the username is purposefully chosen to hide gender identity. Afterwards, the last two questions asked participants about coping methods that involved bringing friends either as a way to avoid chatting with other players or to utilize them as a resource when the participant is being mistreated by other players. These questions sought to identify the most common style of coping and explore the most convenient methods of coping. Further elaboration of the coping styles will be examined in the interviews.

Post-Gaming Feelings and Thoughts. The final section of the survey sought to understand the long-term impact that the online gaming space has on female gamers. The first question allowed the participant to choose from a list of emotions and feelings and rank them to describe their feelings after a typical gaming session. These emotions range from positive ones, like feeling excited, relaxed or happy, to negative emotions, such as feeling frustrated or empty. These emotions were drawn from common emotions after gameplay. Next, participants were asked if they ever felt like quitting a game because of the player-to-player interactions in-game. Then the next question asked whether the participants feel bothered by their negative experiences in-game. Following was a question on whether the participant actively thinks about their mistreatment in the gaming community outside of a session in gaming. The next question asked participants whether they are satisfied with their gaming experience. The final question asked whether the participants identify being a 'female' as being connected to their player-to-player experiences.

Interview. The second instrument used were interviews through Zoom calls. Video conferencing is easily assessable and flexible (Gray et al., 2020). It allows researchers to extend participation to individuals outside of their region which would generate a generalizable

opinion. Interviews through video chat have been found to have similar effects to regular face-to-face (Gray et al., 2020). There have been incidents where individuals may have technical difficulties when setting up Zoom even when it tries to be user-friendly. A study found that technical difficulties could be seen as an opportunity to build rapport, although the research in that area is limited (Archibald et al., 2019). Building the rapport would allow for more information to be collected from the semi-structured interview that will be conducted over Zoom. Oliffe et al. (2021) found that individuals perceive Zoom to be convenient and comfortable due to being in the safety of their homes which allow them to disclose richer details and content during interviews.

The interview was semi-structured with three overall guiding questions: participants were asked to describe their online interactions in-game, describe a moment that they had a conflict due to their female gamer identity, and share their personal thoughts on the online gaming community indicating and explaining on what how it could be improved or whether no improvements are needed. Follow-up questions were asked based on the details provided in the interview as well as elaboration on data that was gained from the internet survey. These open questions were generated based on the examination of themes found in forums that looked at the experiences of female gamers (McLean & Griffiths, 2018). To ensure that all participants received the same treatment, the primary researcher held all the interviews and allowed for all participants to select their preferred time. Only 1-2 participants were interviewed on each day to avoid burnout for the interviewer. Throughout the process of data collection and the analysis, the researcher carefully upheld the ethical guidelines placed upon them by the University of Lethbridge to the best of their ability.

Survey Validation and Creation

The survey questions and scenarios were inspired by questions and themes used in qualitative studies that were then converted into a multiple-choice questionnaire that would be able to answer the research questions. Mclean and Griffith (2018;2019) provided themes of coping and common experiences (ex. name calling, flirting, pressure into quitting and others) that would occur for female gamers. Assunção (2016), Nic Giolla Easpaig, and Humphrey (2017) cemented the idea that women were not welcome into the gaming space and further contributed common experiences faced by them through online gaming. Utilizing these themes and experiences, the questions were formed to capture the frequency of these experiences and how they might connect with mental wellbeing. To ensure that the survey was neutral and that questions were clear, prior to launching the survey to the public, the survey was sent to five individuals from different backgrounds to check for readability. Three of the women accessed the survey using their phones and the other two were on computers or laptops. All the testers had experience with playing online games and were conveniently selected individuals that were either peers within the researcher's master's program or were people from the researcher's life. The survey was also examined and granted approval by the researcher's supervisor.

Ethical Considerations

The study sought to uphold ethical standards for investigative studies done in an online format set by the university. To minimize harm, participants were not coerced, threatened, or bribed into continuing the survey or interview and were allowed to stop by their own choice. Furthermore, resources were given to the participant during the debriefing, which included a link to Psychology today, a website that locates the closest therapist for counselling and contact information if they have any concerns regarding the survey, interview, or research.

The interview invitations were sent to individuals who willingly entered their email. The primary researcher and supervisor were the only ones to have access to the list. To maintain privacy for the participants, emails were appropriately discarded and removed from the survey results after the interviews had been completed. Possible privacy concerns could have arisen from using a third-party application such as Zoom. The Zoom room had been password protected so that no external interference could interfere with the interview. Data collection from Zoom has not been confirmed or denied by the company but participants were informed, and had they wished, they could have requested to withdraw from the interview without any consequences (Archibald et al., 2020). All information and data collected were safely kept under encrypted folders with only the relevant researchers being allowed to access it. Human research ethics was approved by the University of Alberta Research Ethics Board in partnership with the University of Lethbridge. With the consideration of ethical guidelines, the data was processed to generate results that will be used for the completion of the primary researcher's thesis.

Process

First, accounts were created for their appropriate social media sites. Permission to post and pin the Qualtrics survey invitation was addressed with the moderators of the forum sites when needed. Participants who clicked on the link were taken to the consent form provided, which was embedded into the Qualtrics survey (Appendix A). After a careful review of the contents of the consent form, participants chose to consent or opt out of the form by exiting the window. After completing the Qualtrics survey, participants were asked if they would like to be considered for the second part of the study. If they wished to be considered, they provided a contactable email. If they did not wish to continue, they left the space blank and continued to the debriefing form, where the first part of the study would end (Appendix D). The Qualtrics survey

continued to run while the second part of the study is moved forward to collect as much data as possible.

The primary researcher contacted five convenient volunteers and set a separate time and date for each participant's interview. These volunteers completed the initial survey and offered their emails to be further contacted. The interviews were held in a password-locked Zoom conference room and recorded. Several hours prior to the interview, the primary researcher sent a consent form to the participant and ask that the participant reads it carefully and signs the consent form. Once the participant has entered the Zoom conference room, the primary researcher went over the consent form with the participant, answered any questions and gained verbal consent from the participant to continue with the interview. The interview was recorded; however, participants were requested to have their cameras turned off and informed prior to beginning. To maintain anonymity, the recorded interview was deleted once it has been transcribed on to word documents which were held in a password protected computer with coded file names.

Method of Analysis

Quantitative and qualitative data were collected and analyzed. First, the demographic information collected was examined for frequencies to explore the collective consensus on experiences in gaming as well as trends. Spearman Rho's correlation analysis was utilized to examine the perception of the influence of gender and the associated negative female gamer post-game experiences. The results of the analysis could be further supported by the qualitative results.

The data collected from the interviews were transcribed into documents. A thematic analysis following Braun and Clarke's method (2008) will be used to gather perceptions of

loneliness, belonging, stress, and coping. There are six steps to thematic analysis: (1) become familiar with the data, (2) create preliminary codes, (3) search for themes, (4) evaluate themes, (5) define and name themes, and finally (6) compile them into a report. Online worlds and player-to-player interaction can be a powerful resource for individuals to develop interpersonal skills and social support. However, in its current state, it can lead to a decline in mental health due to the negative experiences from isolation or sexual harassment. Previous studies have utilized interviews and thematic analysis to establish the different coping styles of female gamers as well as capture some experiences they have had identifying themselves as a female gamer (Assunção, 2016; McLean & Griffiths, 2018; 2019; Tang et al., 2020). This study seeks to understand the female gamer experience to raise awareness about how gaming communities can affect one's mental health to further lead to the development of a gaming community that can act as a strong social support resource.

Rationale

Quantitative research is seen as a process of collecting or analyzing a quantity or measurement of a phenomenon to find patterns or averages that can be generalized to a wider population (Langdridge & Hagger-Johnson, 2013). Qualitative research can be seen as the opposite in a design that focuses on the subjective experience. A mixed methods design includes both qualitative and quantitative information gathering allowing for a rich and complementary designed answer to the research question (Mertens, 2020). Qualitative research on the female gamer experience. A second correlation on the attribution of the female gamer identity and coping strategies. Both of these correlations would highlight the unique experience in online gaming for female gamers. Other qualitative research has found that social support systems promoted feelings of security but that with female gamers, their self-image that is influenced by

the safety of interactions has led to decreased social bonds (Kowert & Oldmeadow, 2013; Kuss et al., 2022). Methods for this topic are primarily qualitative leading to a gap within the quantitative perspective (McLean, & Griffiths, 2018; 2019; Kuss et al., 2022). Through a mixed-method study, the feelings and perceptions can be extrapolated to the larger female gamer population that is steadily growing (Greene, 2008).

CHAPTER 4: Results

Data Screening

A total of 315 participants filled out the survey. After taking the results from Qualtrics and transferring it to SPSS, the data was screened. Participants were allowed to quit the survey at any time while filling it out. As a result, incomplete surveys were taken out of the total number of participants. Any signs of incongruence within the survey, such as conflicting answers or suspicious answers that show that the participant was not taking the survey (ex. Choosing only the first option presented) seriously were also taken out. After cleaning the data, 197 participants remained for data analysis.

Descriptive Statistics

Demographics

Demographic frequencies were arranged in Table 1. Out of the 197 participants, the majority did not identify as transgendered or gender-fluid, almost half of the participants reported being in between 18-25 (n= 92) and the highest range included participants in their early to late forties(n=8). The participants were collected from English-speaking websites, and the representative population is Caucasian or European descent (n=143). Most participants' highest education included a high school diploma (n= 49) or an undergraduate bachelor's degree (n= 71). Several participants in the survey(n=19) identified that they were still completing their bachelor's or trade school certification.

Table 1*Demographics*

	Options	Count(n)	Percentage of Participants (%)
Age Range			
	18-25	92	46.7
	26-33	64	32.5
	34-41	29	14.7
	42-49	8	4.1
	50+	0	0
Identity			
	Transgendered	21	10.7
	Gender-Fluid	19	9.6
Ethnicity			
	Caucasian/European Descent	143	72.6
	Indigenous	4	2.0
	Latino/Hispanic	7	3.6
	Asian	20	10.2
	Black	3	1.5
	Native Hawaiian/Pacific	0	0
	Mixed	12	6.1
	Other	5	2.5
Highest Level of Education			
	Some High School	11	5.6
	High School	49	25.0
	Certificate Program	12	6.1
	Trade School	6	3.1
	Bachelor's Degree	71	36.2
	Master's Degree	26	13.3
	PHD(equivalent) or Higher	2	1.0
	Other	19	9.7

Gaming Characteristics

Participants were asked to self-report their mental health status and their gaming habits.

Figure 1 below displays the frequencies of self-reported individual mental health. There was a range of self-reported mental health among participants with *somewhat good* (n=69) being the

most common, followed by *somewhat bad* (n=57), and *neither good nor bad* (n =48). Table 2 shows the frequencies of average weekly gaming time for female gamers and their hours of bingeing a gaming session, if applicable. 58.4% of Participants identified between 5-20 hours of gaming in a multiplayer online setting (n=115). Only 2% of participants identified that they didn't binge. While 83.8% were found to binge a gaming session 1-10 hours (n= 165).

Figure 1

Self-Assessed Mental Health Status

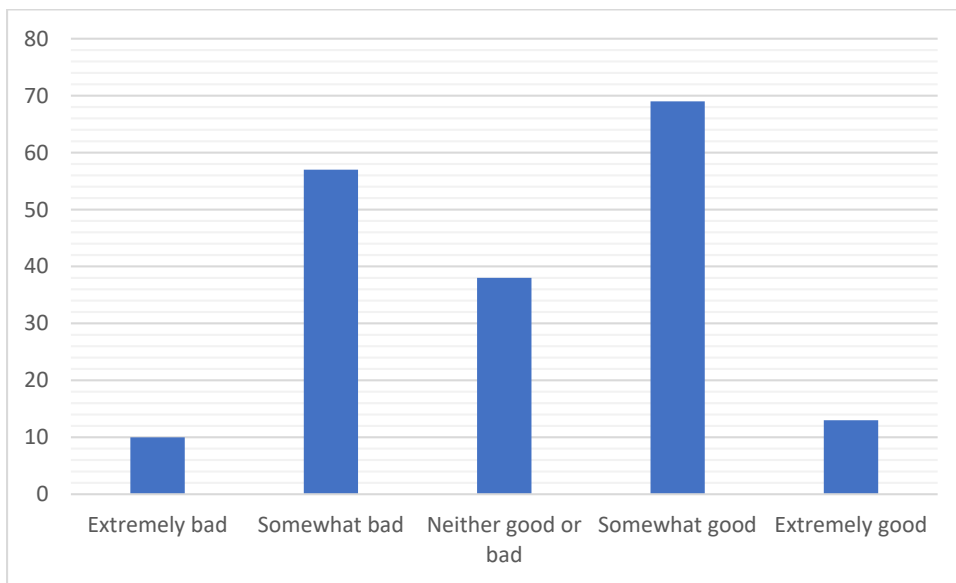


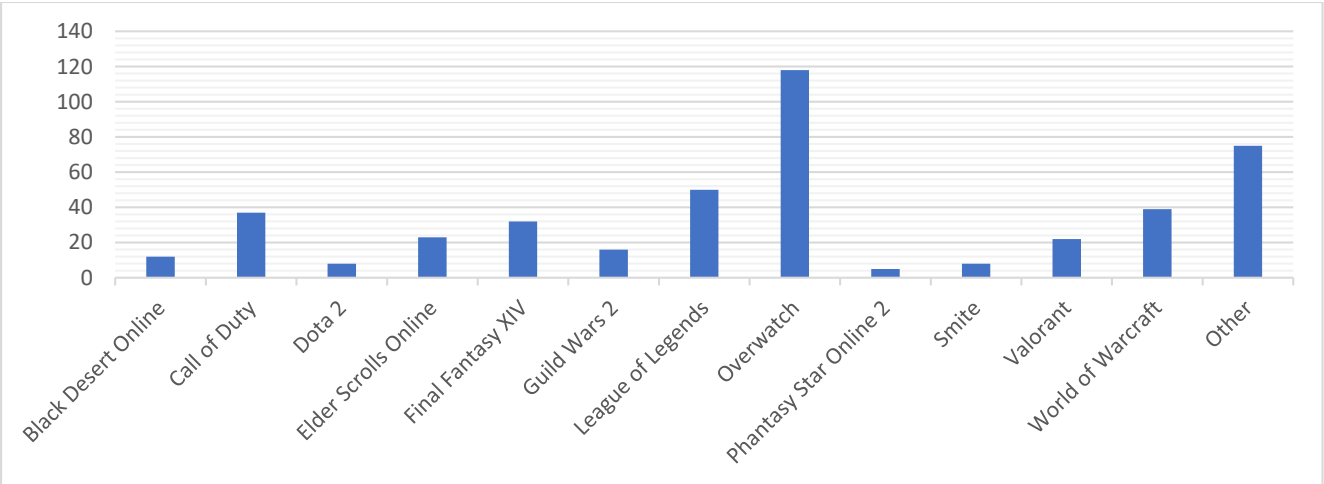
Table 2

Gaming Habits

	Choices (Hours)	Count(n)	Percentage of Participants (%)
Average Time Playing Multiplayer Online Games(Weekly)			
	Less than 1	3	1.5
	1-4	24	12.2
	5-10	60	30.5
	11-20	55	27.9
	More than 20	47	23.9
	Unsure	8	4.1
Binge Play per Session			

	I don't binge my play session.	5	2.5
	1-4	74	37.6
	5-10	91	46.2
	11-20	15	7.6
	More than 20	6	3.0
	Unsure	6	3.0

Figure 2
Choice of Games



It is important to note that within the survey, individuals were allowed to pick multiple games that they played. A carry-over question identifies which game they played the most frequently. 40.6% (n= 80) of the participants identified Overwatch (team-based action game) as their primary game choice.

Experiences in Gaming

Frequency findings are provided in the table below, highlighting the participant's perception of their gendered experiences in gaming. Roughly half of the participants (45.2%) identified that they *somewhat agree* (30.5%) or *strongly agree* (14.7%) that they are asked about their gender or sex in-game. Furthermore, 71.6% of the participants disagreed that the game

becomes more enjoyable when other players identified them as female (*strongly disagree*, 50.3%; *somewhat disagree*, 21.3%). In asking about their experiences, 23.4% *strongly agreed* and 40.6% *somewhat agreed* that “**People in-game dismiss my ideas or opinions when they know I am a female**” when they are identified as female. Significantly, 83% of participants disagreed with the statement, “**People in-game assume I am good at playing the game because I am a female.**”

Table 3*Female Gamer's In-Game Experiences in Online Multiplayer Gaming*

	People ask about my gender or sex in-game.		People give me positive comments in-game when they know I am female.		People in-game are more supportive of me when they know I am a female.		The game becomes more enjoyable when people in-game know I am a female.		People in-game dismiss my ideas or opinions when they know I am a female.		People in-game assume I need help playing the game because I am a female.		People in-game assume I am good at playing the game because I am a female.	
Participant Response	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Strongly Disagree	35	17.8	59	29.9	73	37.1	99	50.3	19	9.6	17	8.6	98	49.7
Somewhat Disagree	39	19.8	60	30.5	54	27.4	42	21.3	13	6.6	32	16.2	58	29.4
Neither Agree nor Disagree	34	17.3	43	21.8	41	20.8	39	19.8	39	19.8	35	17.8	29	14.7
Somewhat Agree	60	30.5	25	12.7	18	9.1	10	5.1	80	40.6	51	25.9	6	3.0
Strongly Agree	29	14.7	10	5.1	11	5.1	7	3.6	46	23.4	62	31.5	6	3.0

Perceptions on Gaming Community

A frequency table is established to observe the perception of female gamer’s in their thoughts on the gaming community as a viable social support. Nearly 70% of the participants *strongly disagreed* (35.5%) or *somewhat disagreed* (34.0%) that they felt safe revealing their gender or sex in-game. Furthermore, the majority of the participants either *strongly disagreed* (43.1%) or *somewhat disagreed* (24.9%) with feeling comfortable revealing their gender or sex in-game. Just over half the participants (55.9%) identified that they were unlikely to trust the moderators or gaming community to support them when uncomfortable with particular player-to-player interactions.

Table 4
Perception about the Support from the Gaming Community

Participant Response	I feel safe when I reveal that I am a female in-game when asked.		I feel comfortable when I reveal my gender/sex in-game.		I believe that the gaming community is inclusive.		I trust the moderators or gaming community to side with me when I feel uncomfortable because of another player’s words or actions in-game.	
	f	%	f	%	f	%	f	%
Strongly Disagree	70	35.5	85	43.1	48	24.4	64	32.5
Somewhat Disagree	67	34.0	49	24.9	59	30.0	46	23.4
Neither Agree nor Disagree	24	12.2	21	10.7	32	16.2	38	19.3
Somewhat Agree	20	10.2	26	13.2	44	22.3	33	16.8
Strongly Agree	16	8.1	16	8.1	14	7.1	16	8.1

Experiences and Feelings Post-Game

Participants were asked how they felt after their gaming sessions. Participants could select up to 23 emotions which they ranked in terms of how dominant each feeling was. The frequencies are displayed in Figure 3 below. The five most picked emotions were anxious (n= 89), nervous(n=77), stressed (n = 69), annoyed(n=68), and frustrated (n =65). A relevant emotion to the results was that alone (n =31) and isolated (n = 34) were not highly picked out of the participants, and only 8-9% of the participants that selected these emotions ranked it as the most prevalent emotion after a game. In Table 5, frequencies were taken reporting participant feelings and possible experiences after a gaming session. From the survey, 81.7% of the participants are in agreement that they do “**feel bothered by the negative player-to-player interactions**” and 57.9% “**actively think about mistreatment after gaming sessions.**” Table 6 summarizes whether participants believe that their experiences are due to their gender or sex. The results express that to a small (35.5%) or moderate (33.5%) number of experiences are due to the participants being female.

Figure 3

Self-Reported Feelings after a Gaming Session

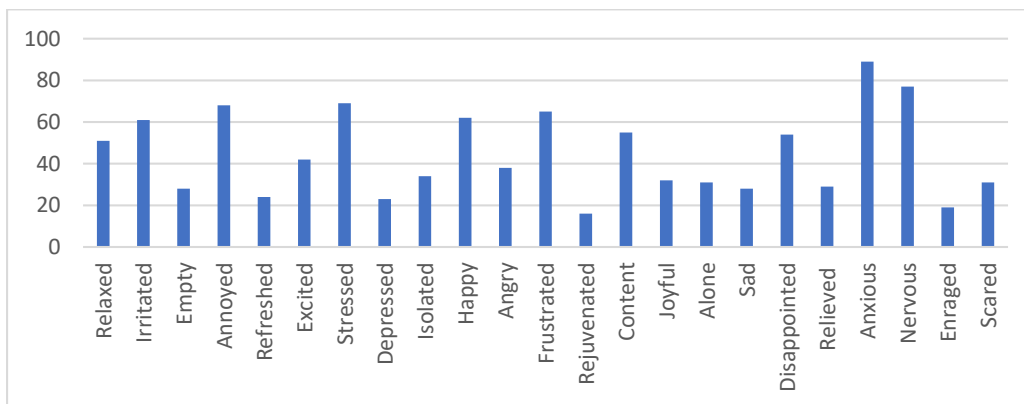


Table 5*Post-Gaming Experiences*

	I feel bothered by negative player to player experiences in-game.		I am usually satisfied with my gaming experiences.		I feel like quitting the game because of how I am treated by other players.		I actively think about the mistreatment in the gaming community after finishing a session of gaming.	
	f	%	f	%	f	%	f	%
Participant Response								
Strongly Disagree	15	7.6	6	3.0	51	25.9	26	13.2
Somewhat Disagree	8	4.1	19	9.6	32	16.2	31	15.7
Neither Agree nor Disagree	13	6.6	46	23.4	41	20.8	26	13.2
Somewhat Agree	91	46.2	90	45.7	59	29.9	73	37.1
Strongly Agree	70	35.5	36	18.3	14	7.1	41	20.8

Table 6*Female Gamer's Attribution to their Player Experience*

	How much of your player to player experiences are because of your gender or sex?	
	f	%
Participant Response		
None at all	25	12.7
A little	70	35.5
A moderate amount	66	33.5
A lot	24	12.2
A great deal	12	6.1

Correlations Analysis

Bivariate correlations were done to understand the attribution of being a 'female gamer' to stress-based outcomes and the attribution in relation to common coping mechanisms for female gamers. Spearman's rho is a nonparametric test that examines the strength and direction of a relationship between variables. The test is compatible with this study for being able to process ordinal variables (Langdridge & Hagger-Johnson, 2013). Table 67 revealed that participants who increasingly identified their negative player-to-player experiences as due to their gender or sex were positively correlated with feelings of detaching from the activity ($r = 0.383, p < 0.001$), rumination on the negative thinking ($r = 0.213, p = 0.003$), and actively thinking about the negative experience past the gaming session ($r = 0.429, p < 0.001$). The study has found that participants who attribute their negative experiences to their gender or sex have a negative correlation with satisfaction with their gaming experience ($r = -0.346, p = 0.00$).

Table 8 shows Spearman's rho correlation test at the attribution of gender and sex to the gaming experience and coping strategies. The results show a positive correlation with attribution of gender and sex with aggressive behaviour ($r = 0.488, p < 0.001$), tough behaviour ($r = 0.415, p < 0.001$), and avoidance ($r = 0.224, p = 0.002$) in-game. There was no significant correlation with the attribution of gender and sex with non-participation in games where the community has a poor reputation ($r = 0.055, p = 0.444$).

Table 7*Spearman's Rho on the Attribution of Gender and the Gaming Experience*

		I feel like quitting the game because of how I am treated by other players	I feel bothered by negative player to player experiences in-game.	I actively think about the mistreatment in the gaming con	I am usually satisfied with my gaming experiences.
How much of your player-to-player experiences are because of your gender or sex?	Correlation Coefficient	0.383**	0.213**	0.429**	-0.346**
	Sig.(2-tailed)	<.001	.003	<.001	0.00

** Correlation is Significant at the 0.01 level(2-tailed)

Table 8*Spearman's Rho on the Attribution of Gender and Coping Strategies*

		I actively avoid games where the gaming community is known to be unfriendly.	If I want to enjoy a game, I hide my real-life gender or sex.	If I want to enjoy a game, I have to act more aggressive than I do in real life.	I act tougher in game than I do in real-life.	I avoid interacting with other people in-game in a way that can identify my sex or gender (ie. voice chat).	I purposefully choose a username that hides my gender/sex.
How much of your player-to-player experiences are because of your gender or sex?	Correlation Coefficient	.055	.224**	.488**	.415**	.193**	.122
	Sig.(2-tailed)	.444	.002	<.001	<.001	.007	.087

** Correlation is Significant at the 0.01 level(2-tailed)

Qualitative Findings

The following results stem from the five semi-structured interviews that were conducted from the pool of participants that had finished the survey. Participants were asked the following questions with follow-up questions when needed.

1. Describe to me what your experience with people has been like in online games.
2. Describe an encounter with another player that made you uncomfortable.
 - a. How did you handle the situation?
 - b. How do you think the encounter has shaped your interactions online?
3. What suggestions would you give in order to foster a comfortable community for female gamers? Why?

Each of the interviews lasted between 15-30 minutes and was transcribed onto paper following the Braun and Clarke (2008) method of thematic analysis. The interviews were broken down into the following themes: (1) Fulfilling Social Needs, (2) Expectations of the Game, (3) Compensation for Gendered Interactions, and (4) Systemic Changes and Future. These themes will be explored below.

Fulfilling Social Needs

The fulfilment of social needs is one of the themes amongst four of the interviews. Especially during COVID-19, the lack of social interactions and the temporary closure of activities that are meaningful to people (ex. Gym, library) lead participants to seek alternatives. One social interaction alternative was multiplayer online gaming. One participant described the following:

“You don’t have to be on mic. You don’t have to show your face or have to do anything like that. You could just play. But I like it. Because sometimes you get lonely or bored, and it’s nice to go somewhere virtually and play with folks.”

The presence of other players can enhance a person’s quality of life by fulfilling the need to be around people without putting pressure on the individual themselves. One participant further identified that watching people stream their games on sharing platforms (ex. Twitch) brought out feelings of connection and happiness. Four participants identified that they could control their level of interaction, they can choose to use their microphone, text chat and they do not necessarily have to show their face on camera.

Participants have also identified that they can connect with previously established relationships utilizing online games. In this way, online games act as a bridge for continuing relationships. The shared in-game experiences of overcoming challenges contribute to building a sense of belonging and maintaining social supports within the participants’ lives.

Expectations of the Game

Another theme within the participants’ interviews was speaking about the expectations of the game. Two participants discussed how they had different expectations while playing different games. For example, playing MOBAs or shooter games, like *Overwatch* or *Call of Duty*, where the objectives involve taking down another team of players, is a different atmosphere than playing cooperatively to take down an NPC in *Final Fantasy* or a Battle Royale in *Fall Guys* with an emphasis on silliness and chaos. Players have expectations of what the game entails, and they will often treat players based on those objectives.

Shooters or MOBAs establish a competitive atmosphere with a ranking system that tracks your wins, losses, and the points you accumulate throughout the game. Two participants have hinted at a psychological aspect of the game, which includes talking down at other players or performing derogative actions within the game. The intention is for the competing player to lose focus when playing the game. With shooters and MOBAs in thought, one participant has expressed:

“I just see many people trying to make the divide between female gamers and male gamers outside of the gaming space. But I don’t see that happening so much within the actual gaming space [...]if you are having issues within the game, you’re gonna get shit regardless of whether you’re male or female.”

The ranking system gives visual cues on whether you are a strong player or a weak player, and the higher you are, the better you are at the game. As a result, there are high stakes for the game as it determines the value of your skill, and this genre tends to be team-based; therefore, if a player’s skill is not appropriate for competitive play, other players will treat them poorly. Another participant expressed that another player’s derogative actions could hinder the game progression and cause annoyance and mild stress, especially when the participant wishes to win or play the game properly.

In comparison, games like Final Fantasy XIV or Guild Wars 2 are both MMORPGs which focus more on the cooperative aspect of gaming. Two interview participants identified that newer players are often more welcomed in these games and more willing to teach. These participants mentioned that the fantastical setting with thematic story elements that are pro-social sets the tone for players, which encourages being open-minded and more exploratory.

Compensation for Gendered Interactions

This theme was discussed in trying to understand the harassment and the adverse interactions that occurred with female gamers. Two participants described that their player to player interactions have either been flirtatious or hostile, with both equally possible.

The flirtatious interactions often included gift-giving, compliments, and an attempt to establish an intimate relationship with the female gamer. These interactions were seen as disingenuous, especially with persistent pursuit, even with a straightforward decline. One participant mentioned that in a single game where she was randomly paired up, a man had kept calling her his “*gamer wife*” after finding out she was a female. Another participant mentioned that when she was identified as female, she would get many more friend requests. Multiple participants (n= 3) found that when they have been identified as female, the next question would be about their age. The participant’s perception was that the flirtatious interaction was a result of loneliness.

Meanwhile, hostile interactions were expressed to come from a tactic to push gamers other’s out of the gaming space, but not only female gamers. Four participants perceived that the culture surrounding gaming is still misogynistic and male-centred. Male gamers may struggle with the concept of female gamers and having them be more high achieving in game which is meant for males, leading to swearing and insulting female gamers. Furthermore, one participant stated that intersectionality (ex. Identifying as a black female gamer) when identified in game has resulted in both sexist and racist comments.

As previously mentioned, it is not just female gamers that receive hostility from other players. Hostile language may be used to negatively affect a player’s concentration. One participant mentioned that the targeting of gender was “*low hanging fruit*” to latch on to when

trying to have a psychological effect on other players. For some, it may be a part of the game to unnerve players into making it easier to achieve in-game goals for others it may be a way to let out their frustrations.

Participants discussed their coping strategies when it came to gendered interactions. One participant expressed that they would place down boundaries at the start of the game when they know they would be identified as a female. For this participant, it meant expressing how they would like to be treated or not treated. They expressed that sometimes their boundary was respected, while other times, male gamers would go out of their way to cross those boundaries. This has led the participant to call out their behaviour, which they have observed would result in the player withdrawing. A typical response from the participants is ignoring or freezing up for a response to the interactions. Two of the participants have gone on to only play with the people they know and to avoid communications that would identify their gender or sex.

The participants that have expressed that they would push back against harassment or negative interactions found these interactions juvenile and sometimes funny. One participant has expressed that the interactions would be “*stereotypical*,” as they were representative of what has been reported in social media on female gamer harassment. Several participants have expressed that the interactions can be annoying but did not identify severe impacts on their stress levels. One participant expressed that the interactions were uncomfortable and caused them to avoid methods of communication that would identify their gender or sex.

Systemic Changes and Future

Participants were asked for their opinion on fostering a more inclusive community for female gamers. Several topics were brought up during the interviews: the gaming industry, representation, moderation, and parenting.

Video game culture extends to the gaming industry or the companies that help produce the games. Three participants expressed that the industry itself would need to be more inclusive for the games to be inclusive. This means having more women entering the gaming industry and being involved in game development. Further representation tactics include articles, women in e-sports (gaming competitions), more streamers, and more female characters in games. This leads to the second topic of representation. One participant mentioned that the inclusion of more powerful female characters within games would help to remove the male-dominant culture of gaming. Two participants have expressed that having more women involved would allow for a shift where a female gamer would be just another person in gaming and not a “female gamer” specifically.

Moderation was also expressed in several interviews as essential to creating a more inclusive and positive gaming community. This would include reacting to player reports of harassment or inappropriate behaviours by preventing players from playing the game or blocking them from contacting other players. With the anonymous nature of gaming, players tend to lack “*social etiquette.*” One participant described:

“When I go to my boss, I don’t make the same jokes I have for my family. Like that’s normal social etiquette. But they (male gamers) don’t connect that, so they just perceive it as ‘I’m not allowed to do this. Now, what’s next? I’m not allowed to drink water?’”

Having more frequent moderation established by the gaming company with meaningful consequences would help players to determine right from wrong. This would allow for the community to be more inclusive and reduce the “*toxicity.*”

One interviewee extended the discussion past cultural game contexts and pointed out that parenting is also important for developing appropriate online behaviour. This connects with the

participant mentioning the lack of social etiquette within the online space, the participant perceived that the behaviour presented in negative interactions with female gamers is due to the lack of parental guidance in online behaviour. The internet has expanded so quickly that the older generation, which has not grown up with the technology, struggles to teach their children properly.

CHAPTER 5: Discussion

The purpose of this study was to understand the perceived mental health impact of online multiplayer games on female gamers. The three research questions that were introduced in the beginning will be answered and discussed in this section: (1) How do player-to-player interactions impact personal mental health? (2) How do player-to-player interactions in-game affect female gamers' perception of their feelings of stress? (3) Do player-to-player interactions affect the female gamer's perception of loneliness and social support? Then this chapter will present clinical implications, limitations, and future directions.

Research Question One: How do player-to-player interactions impact female gamers' perception of their personal mental health?

First, the study explored female gamers' perceptions of player-to-player interactions and their perceived impact on their health. The quantitative analysis of data serves to discern and validate common patterns of player-to-player interactions and coping responses within the experiences of female gamers. Simultaneously, the qualitative data complemented and enriched the quantitative findings by supporting these experiences and providing a comprehensive exploration of the emotional and cognitive processing within female gamers' reactions to player-to-player interactions, specifically tied to their distinct identity. The Spearman's Rho correlation

showed that individuals who attributed their negative interactions with other players to their female identity had significant positive correlation to the use of coping mechanisms, lingering thoughts on the negative experience, and active negative thoughts even after the gaming session (Table 7). Furthermore, the highest responses after the game were feelings that would correspond with stress (Figure 3). It is inherent that certain adverse emotions might arise from intrinsic aspects of the game, potentially stemming from factors such as game difficulty, specific features, or the physiological repercussions of prolonged technology usage. Additionally, prolonged screen exposure and inefficient posture could contribute to female gamers' perceptions of their mental well-being, alongside feelings of stress or physical discomfort. However, it is imperative to understand that the focus of both the survey and the interview context pertains specifically to the influence of player-to-player interactions within the gaming environment. The results align with the research hypothesis; that there is a negative effect on female gamers' personal perceptions of their mental health after game play.

This is consistent with previous research that identifies that female gamers tend to have a different experience playing online multiplayer games. Past research has highlighted the necessity for female gamers to avoid social interactions that would reveal their gender identity (McLean & Griffiths, 2018; 2019). Tang et al. (2019) found that exclusion and sexual harassment within games are linked to gender identification in gaming. This study expands on the existing literature by examining the emotional and cognitive effects of negative interactions during and after a gaming session. The impact of these interactions extends beyond the gaming experience, influencing players' desires, needs, and thoughts about protecting themselves when interacting in the online space.

It should be noted that not all player-to-player interactions are negative, as online games have also provided a means of fulfilling social needs during the COVID-19 pandemic. In fact, some participants in the study expressed that online gaming was instrumental in maintaining long-distance friendships and alleviating feelings of social isolation. Seeing the avatars and being around people in the virtual space safeguards against loneliness from being forced to socially isolate. Studies have found that this has been beneficial to not just female gamers but male gamers as well (Chappell et al., 2006; Kort-Butler, 2021; McGonigal, 2011). While not a surprising finding, the present study highlights the influence of game genres on player-to-player interactions and the associated expectations. The results suggest that different game genres may elicit distinct social behaviors and attitudes among players, which may have implications for how individuals interact with one another within those games. For example, during the interview, one of the participants identified that playing Final Fantasy XIV(MMORPG) had players who had been more willing to help newer players and compared that to Overwatch (shooter) where inexperienced players are treated with more hostility. This phenomenon demonstrates Bartle's (1997) categories of players and how they might react to each other within the game environment (Bean & Groth-Marnat, 2016; Worth & Book, 2014). The different genres of games will elicit varied ranges of interactions that can be both negative and positive.

Research Question Two: How do player-to-player interactions in-game affect female gamers' perception of their feelings of stress?

The study also endeavours to specifically explore how female gamers perceive their stress levels through player-to-player interactions. The quantitative data shows the numerical representation and frequency of stressful interactions experienced by participants, emphasizing the significance of these experiences within the context of the female gamers. The qualitative

data augments this understanding by reinforcing and affirming that the stress primarily emanates from interpersonal interactions, rather than intrinsic aspects of the game or the extrinsic effects of using technology. Evidently, many female gamers express a preference for engaging with familiar companions or solitary play over interactions with unfamiliar individuals, thereby demonstrating the impact of these interactions on their gaming experiences. Two stressors are identified in the literature review: the pressure from the game community and disruptive behaviour from other players. As mentioned in the literature review, player motivations can vary and not everyone will feel the pressure from the game community due to the lack of intersection with their motivations. However, disruptive behaviour from other players can happen regardless of an individual's motivation especially if the player has been identified as a woman. Questions from the survey and the interview investigated female gamers' thoughts on the community and how they coped or felt about being targeted by disruptive behaviour.

Amongst the participants of this study, the five most identified feelings after a game were: anxious, nervous, stressed, annoyed and frustrated (Figure 3). Some of these feelings can be addressed as being a part of the gameplay or a specific game's culture. Gameplay features could include time limited objectives, competitive atmosphere, or losing can be acquainted to feelings of stress. The interviews and the surveys both identified player-to-player interactions specifically. Two participants in the interview expressed that some games promoted stressful interactions with other players. One participant expressed that the game allowed for offensive actions to be played out by the avatars (ex. T-bagging-crouching excessively over an avatar's body to mock, blocking a player from completing objectives), and yet without these allowed actions, the game would lose its character and popularity. This participant also clarified that while they would perceive more stress due to the nature of the game, this stress would not be

transferred to real life as they have identified that it was part of the game. Similarly, another interview participant identified that within the competitive nature of the game, a player would do what they can to distract the other player to make mistakes. This included verbal attacks using female stereotypes, which could be considered as the easiest way to offend a female gamer without thinking too deeply. When attributing the interaction to being a part of the game culture, the participant also found that they did not find those stressed feelings emphasized within their life outside of the game. These two participants have also identified different coping mechanisms, the former choosing to avoid the chances of interacting with strangers and the latter choosing to assert themselves during negative instances of player-to-player interaction. While a portion of the population may be less affected by these stressor encounters and react similarly to these two participants, there are those that also internalize these situations, which has been identified more frequently in the literature.

It is important to note that general perceptions of mental health are less likely to impact the survey results. Participants of this survey generally were of average mental health state when participating in this survey. On average, participants ranged around the middle where they did not see themselves as being in extremely good in mental health nor extremely bad (Figure 1).

The survey data showed that more than half of the participants expressed that they continued to think about the negative interactions and feeling the emotional impact of negative player-to-player interactions (Table 7). Examples of the negative interactions or harassment included persistent expression of unwanted (on the part of the female gamer) affections, derogatory name calling, and attributing poor playing competency to being “female”. Three of the interview participants said they were more cautious with their online behaviour to avoid chances of harassment. These three emphasized their uncomfortable feelings in the interview and described

that their immediate reaction was to avoiding further provocation and making adjustments for future interactions. One of the participants expressed that they would never playing with random players or strangers after going through the negative experience. The first mode of defense is to either avoid interactions or play with people they are familiar with. Surprisingly, there was little to no mention of utilizing functions within games to alert authorities of poor behaviour or hearing about other players stepping in to intervene. This is further highlighted within the survey where people did not feel comfortable with revealing their identity as a female. The anonymity and the lack of enforcement of rules within the online space makes it difficult for individuals to feel safe in the environment to be themselves. Vulnerable populations may feel more guarded, which increases feelings of stress and wariness towards opening up to gaming communities to gain support. Furthermore, due to the gaming culture being rooted in masculinity and independence, female gamers may believe that the community may downplay or ignore these behavioural problems.

The past research has identified negative consequences of harassment such as rumination of interaction, perceived unresponsive community to issues, and withdrawal from the games (Fox & Tang, 2017; McLean & Griffiths, 2018; 2019). Results from this survey align with previous studies in that there are female gamers who will continue to have stress responses after a game where they have been harassed or label the online gaming community as unsafe or unreliable. Withdrawal from interactions was found to be a common coping mechanism identified in both the survey and the interviews. It is common to hear about how distressing or frustrating playing games are as a female gamer. The current research validates the feelings and thoughts of previous literature while introduces the idea that not all female gamers internalize that stress that goes into the negative player-to-player interaction.

An emerging cultural shift may be taking place within the online gaming community, characterized by increased recognition of women's presence and contributions in the gaming industry, as well as the promotion of non-stereotypical (damsels-in-distress), empowered female characters. As more women share their experiences as gamers and engage in discussions surrounding these topics, it is possible that increased solidarity and support among individuals with similar backgrounds may promote greater confidence and resilience in female gamers (Kivijärvi & Katila, 2022; Kuss et al., 2022). Where there are people, there will always be stressful situations. However, the power of the label “female gamer” will lose its impactful influence. When the label no longer has as much influence, it will no longer cause as much stress or be used to exclude. This leads to my final question regarding the views on social support and loneliness within the gaming community.

Research Question Three: Do player-to-player interactions affect the female gamer’s perception of loneliness and social support?

Multiplayer games have been found to help develop social support and stave off loneliness on all levels but especially social isolation (Petrosino et al., 2021; Visser, 2013). The quantitative analysis verifies the lack of inclusivity within the online gaming realm, which poses challenges for female gamers. In parallel, the qualitative investigates the potential ramifications of this exclusionary environment on the perceptions of loneliness and the availability of social support among female gamers. All interview participants identified that games during COVID-19 were a way to connect with friends without getting outside of the house. Furthermore, even without friends, it was a way to ‘see’ people. Passively, seeing other people was found to be comforting as it prevented an individual from entering a forced social isolation. This was especially true during COVID-19, when time was spent at home without seeing other people or interacting with

them. This is further emphasized by one of the questions on the survey. Only 31% of the participants connected to feeling isolated or alone after their gaming sessions.

Results from the survey found that participants did not feel safe in the gaming community, felt uncomfortable revealing their gender identity to the gaming community, and were distrustful of the rule enforcers within the gaming community (Table 4). Consistent with previous research, the study results found that female gamers prefer to utilize coping strategies when placed in a negative player-to-player interaction rather than seeking out community support. These strategies include either standing up for oneself and confronting the harasser, or avoiding situations where harassment may occur. The participants largely did not see the gaming community or authorities as being reliable in their protection or support.

The results of the study aligned with also consistent with previous research that found that gaming can decrease social isolation. The large pool of potential online player-to-player interactions and the capacity to continue having a sense of belonging by staying in touch with friends mitigates social isolation (Petrosino et al., 2021; Snodgrass et al., 2017). Interview participants identified that just being around people indirectly had a positive effect on feelings of loneliness. Importantly, the current study found female gamers perceived the gaming community as unsupportive. The perception that the gaming community is not supportive, may lead female gamers to interact with a smaller selection of players and they may struggle to emotionally bond with players. This cautious behaviour may minimize the positive gaming benefits offered through team play or cooperation (Heng et al., 2020; 2021). Alternatively, female players might only play with friends, allowing them to benefit from the elements of gaming that contribute to wellness. Player-to-player interactions will affect how female gamers view and interact with

other players, which may lead to lesser social benefits depending on their already established network.

Clinical Implications

Online gaming has become an increasingly significant form of entertainment, and it is vital for clinicians to understand the aspects surrounding gaming and how it can affect people differently. Within the therapeutic realm, video games are often associated with violence and addiction. Through continued research, clinicians can identify the benefits of gaming and how they can be utilized as a steppingstone for addressing sources of mental health concerns such as anxiety or stress. Furthermore, clinicians should be aware of their own biases when it comes to video games. The sociocultural theory expresses that an individual is influenced by what is around them, including what is not around them. Online gaming is a highly convenient mode to access immense amounts of information and experience different communities and cultures than when interacting in the real world. It is important, therefore, to understand that online gaming is a complex environment not solely designed to be black or white.

Clinicians should be cognizant of the complex impact games can have on players: harassment, ‘trolling’, and negative player interaction within games can impact stress levels and how individuals may perceive others and even themselves. However, not all games impact stress equally; some genres are more prone to promote pro-social behaviours, while others promote a competitive atmosphere that may be likely to increase stress. Female gamers that play games that have stereotypical masculine mindsets, such as shooters or military themes, may find themselves more vulnerable to stressful player-to-player interactions. Furthermore, expectations and motivations for playing games can determine how stress is perceived. Returning to Yee’s (2006) player model, it is important for a clinician to explore what a client may be seeking when

considering whether gaming is beneficial or detrimental to them, regardless of being a female gamer or not.

Another clinical implication would be the consideration of gaming as a part of therapeutic interventions. This current research highlights the social benefits of gaming for fostering and maintaining relationships. Online multiplayer games may serve as a valuable platform for social skills training, as they offer a realistic simulation of real-world scenarios without exposing individuals to actual consequences. Cooperation, team-based engagement, conflict resolution, and relationship building can be found within games with adjustable levels of engagement. Video games could be utilized in exposure therapy for individuals with anxiety and depression. Depending on the game, the online environment may be less stress-inducing than the real world, it presents itself as a base where the individual can have more control over the levels of interactions (Frommel et al., 2021). From there and individual's coping and stress resilience could be developed through a step-by-step process.

Limitations and Future Direction

There were several limitations to this study that should be considered in the future. The first limitation was the distribution of the survey was not as welcomed as expected. Game-specific forums were largely against having this academic survey posted on their site or subreddit. The few that were open to hosting the survey may have been geared to a specific genre of game. As mentioned previously, the genre of the game may affect the expectations of participants, which in turn may affect answers given through the survey. The numbers leaned towards playing shooters and MOBAs rather than a balance, including MMORPG players or alternate multiplayer games. To circumvent this limitation, the distribution could also include university survey systems or paid survey websites. This may bring in more participants and an even distribution of players from different genres of games.

Secondly, the survey was constructed personally by the researcher. The survey included more negative questions and a negative tone which may have influenced the participants' perceptions and responses. For instance, question 35 had more negative emotion choices (ex. Isolated, anxious, stressed) than positive choices (ex. Refreshed, relaxed, happy) for individuals to choose from. Future studies might benefit from using previously validated surveys to explore perceptions on a clinical level. Furthermore, studies could also take an approach to explore more of the positive effects when it comes to playing online multiplayer games.

The final limitation revolved around the survey question about whether the female gamer was "transgendered." Some of the forums were especially targeted toward inclusive gaming communities. Potential participants expressed that the usage of the word 'transgendered' was incorrect; to display full respect for their identity, it should have been in the present tense (i.e., trans or transgender). It is possible that this question may have led to participants turning away from the survey. Another possible impact could be that the results may not include a lot of female gamers who have not felt This limitation also presents itself as a possible alternate future direction for how gaming may affect mental health. The intersectionality between gender identity as a member of the LGBTQ+ community and how player-to-player interactions may affect their mental health could be explored in further studies on online gaming and mental health.

Future directions of the research could target different cultural intersections around the world. There are many alternate servers for games which may have a different community type due to different cultures and expectations on the internet. This survey did not identify participants from different parts of the world, and the majority of the participants identified as Caucasian or of European descent. Additional research could explore the intersection between

different cultural backgrounds and their mental health in the context of player-to-player interactions in online gaming.

Conclusion

This study aimed to investigate the potential impact of online gaming on the mental health of female gamers, with a particular focus on the role of player-to-player interactions. Specifically, the study examined how such interactions may affect perceptions of loneliness, social support, and stress levels among female gamers. The use of a mixed methods study bridges the gap between quantitative and qualitative data. The research discovered that the genre of the game could facilitate differing feelings and effects on the stress levels of female gamers. Another finding is that female gamers often use to maintain relationships rather than to garner more social support. However, even without increasing the number of meaningful supports, being in the presence of other players could mitigate feelings of loneliness. As gaming continues to become a common source of entertainment, it is important for clinicians to understand how their patients' gaming can contribute negatively and positively to well-being and mental wellness.

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Appendix A: Survey Consent

Female Gamers' Perceptions of their Mental Health influenced by the Online Gaming Space

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Invitation to Participate: You have been invited to a study by Andrea Fong, a Masters of Education--Counselling Psychology student at the University of Lethbridge under the supervision of Dr. Lorraine Beaudin.

Purpose of the Study: In this study, we are examining how the player- to-player interactions in online gaming affects the mental health of female gamers. The research will inform us on how to better advocate for mental health as well as highlight the current culture of online multiplayer games.

Participation: If you wish to participate in this study, please complete the attached survey. The internet survey is all multiple choice and will take approximately 10-15 minutes to complete.

Furthermore, if you are interested in expressing your opinion on the subject further you may provide us with your email at the end of the survey, where you may be selected for a semi-structured interview regarding your experience as a female gamer.

Benefits: Your participation in this research will add to the pool of knowledge furthering research on the online gaming world and its effect on the mental health of female players.

A possible benefit you may receive will be the knowledge of the research and learning about the impact of online player interactions on female gamers' mental health.

There may also be a chance that you do not receive any benefits.

Risks: In participating in this study, your responses to the survey questions may bring up negative experiences or distress. Possible themes that are handled within the survey include sexual harassment, cyberbullying, and isolation.

If you are experiencing distress while completing this survey, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. You can also consider calling toll-free 1 (833) 456-4566 (Canada) or 1(800) 273-8255 (USA) if you live in Canada or the USA. You may also access <https://www.psychologytoday.com> to find your closest counsellor or therapist. If you live outside of Canada or the USA, please contact the primary researcher so that they might direct you to the closest mental health services within your country.

Confidentiality and Anonymity: The information you will share will remain strictly confidential and will be used solely for this research. The only people who will have access to the research data are the researcher and her supervisor. Your answers to open-ended questions may be used verbatim in presentations and publications but you will not be identified. To minimize the risk of security breaches and to help ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser, and locking your screen or device when you have completed the study.

Results will be published in pooled (aggregate) format. Anonymity is guaranteed since you are not being asked to provide your name or any personal information.

The confidentiality of the data may not be guaranteed due to the limitations of the privacy policy for Qualtrics as well as the internet, however the student investigator and their supervisor will do their utmost to ensure that your confidentiality is respected and that you remain anonymous when participating in the survey. For more information on Qualtrics's privacy policy please go to <https://www.qualtrics.com/privacy-statement/>.

Data Storage: During this study we will do everything we can to make sure that all information you provide is kept private. No information relating to this study will be released outside of the researchers' office or published by the researchers unless you give us your express permission. We will make every legal effort to make sure that your information is kept private.

Electronic copies of the survey will be encrypted and stored on the researcher's password protected computer. All electronic copies will be deleted after 5 years.

Voluntary Participation: You are under no obligation to participate and if you choose to participate, you may refuse to answer questions that you do not want to answer. Should you choose to withdraw midway through the electronic survey simply close the link and no responses

will be included. Given the anonymous nature of the survey, once you have submitted your response it will no longer be possible to withdraw from the study.

Information about the Study Results: The data collected will be processed into summarized data where the results of the research will appear in a thesis document, potentially a peer-reviewed journal, or conference presentation. If you want a copy of the study findings, you may request a copy from the researcher.

Contact Information: If you have any questions or require more information about the study itself, you may contact the researcher or her supervisor at the email addresses mentioned above.

The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta. If you have any questions regarding your rights as a research participant or how the research is being conducted you may contact the Research Ethics Office at 780-492-2615.

Consent Statement:

Please print a copy of this form for your records.

Completion and submission of the survey means your consent to participate.

Appendix B: Interview Consent Form

Female Gamers' Perceptions of their Mental Health influenced by the Online Gaming Space

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You are being invited to take part in a research study. Before you take part, a member of the study team is available to explain the project and you are free to ask any questions about anything you do not understand. You will be given a copy of this form for your records.

Why am I being asked to take part in this research study? You are being asked to be in this study because you have expressed interest in the interview and you have provided your email at the end of the survey on female gamers. The goal of the study is to explore the female gamers' perception of their own mental health as they interact in multiplayer online games. Furthermore, it will allow researchers to look at how to better advocate for mental health as well as highlight the current culture of online multiplayer games.

What will I be asked to do? You are taking part in one online interview about your experience as a female gamer where your audio will be recorded over Zoom; videos will be turned off. The

researcher will guide the you through the consent and confidentiality of the study. After you have consented, the researcher will begin to ask the interview questions. This single semi-structured survey should take between 30-60 mins. You will be asked three questions to which follow-up questions may be brought in to further describe the experiences of the participants. The audio will be transcribed by the student and stored in the researcher's local password protected computer. Once the audio has been transcribed, the audio recording will be destroyed. With your consent, study information will be stored in a secure data repository to facilitate future research.

What are the risks and discomforts? In participating in this study, the questions you may be answering may bring up negative experiences or distress. Possible themes or topics that are handled within the interview include sexual harassment, cyberbullying, and isolation.

If you are experiencing distress while completing this interview, consider reaching out to local mental health resources or other forms of support that you have accessed in the past. You can also consider calling toll free 1 (833) 456-4566 (Canada) or 1(800) 273-8255 (USA) if you live in Canada or the USA. You may also access <https://www.psychologytoday.com> to find your closest counsellor or therapist. If you live outside of Canada or the USA, please contact the primary researcher so that they might direct you to the closest mental health services within your country.

It is not possible to know all of the risks that may happen in a study, but the researchers have taken all reasonable safeguard to minimize any known risks to a study participant. If we find out anything new during the course of this research which may change your willingness to be in the study, we will tell you about these findings.

What are the benefits to me? Your participation in this research will add to the pool of knowledge furthering research on the online gaming world and its effect on the mental health of female players.

A possible benefit you may receive will be the knowledge of the research and learning about the impact of online player interactions on female gamers' mental health.

There may also be a chance that you do not receive any benefits, however your results from this study may help us learn more about the culture of online gaming.

Do I have to take part in the study? Being in this study is your choice. If you decide to be in the study, you can change your mind and stop being in the study within one week after your interview. After that point we cannot remove you from the study because your data will have been transcribed and analyzed as a part of a dataset. To withdraw from the study please contact the researcher or supervisor listed on this form.

Even if you remain in the research study, you may choose to withdraw some or all of your responses by once again contacting the researcher or supervisor above. We are unable to remove your answers after your data has been transcribed and turned into research results. As an interview participant you also have the right to not answer any questions that you are not comfortable with.

If you opt out of the interview, your answers will be deleted from the system and will not be used for analysis. At the end of the interview, you will be provided a randomized 3-digit code that can be used to withdraw your set of data. With the string of numbers, you can contact the researcher or their supervisor to have them delete your data.

Will my information be kept private? The interviewer will not ask you for identifiable information. Only your voice will be recorded during the interview. The recordings will be deleted once the transcription has been written. To protect your privacy, your data will be assigned a 3-digit number that will be given to you at the end of the session. The recordings and data collected will be downloaded on to a local password protected computer only assessable by the researcher and the supervisor.

Summarized data and quotes may be used during the presentation and publication of the research.

During this study we will do everything we can to make sure that all information you provide is kept private. No information relating to this study will be released outside of the researcher's office or published by the researchers unless you give us your express permission. We will make every legal effort to make sure that your information is kept private

What if I have Questions? If you have any questions or require more information about the study itself, you may contact the researcher or her supervisor at the email addresses mentioned above.

If you have any questions regarding your rights as a research participant, you may contact the University of Alberta Research Ethics Office at reoffice@ualberta.ca or 780-492-2615 and quote Ethics ID Pro00121112. This office is independent of the study investigators.

A copy of this consent form will be given to you to keep for your records and reference.

Thank you for your interest and participation in the study.

Verbal Consent:

Case #:

Date of Consent:

Appendix C: Internet Survey

Female Gamer and Mental Health

Q2 Please Indicate your Age Range

- 18-25
- 26-33
- 34-41
- 42-49
- 50+
- Prefer not to Say

Q3 This survey acknowledges that gender identity is important for individuals and the term 'female' can involve change and movement. Are you considered Transgendered?

- Yes
- No
- I would prefer not to say.

Q4 This survey acknowledges that gender identity is important for individuals and the term 'female' can involve change and movement. Are you considered gender-fluid?

- Yes
- No
- I would prefer not to say.

Q5 Please Specify your Ethnicity

- Caucasian/ European Descent
- Indigenous
- Latino or Hispanic
- Asian
- Black
- Native Hawaiian/ Pacific Islander
- Mixed
- Prefer not to say
- Other: _____

Q6 What is the highest degree or level of education that you have completed?

- Some high school
- High School
- Certificate Program
- Bachelor's Degree
- Master's Degree
- PHD(equivalent) or higher
- Trade School
- Elementary
- Other. Please Explain. _____

Q7 Outside of gaming, how do you see your mental state?

- Extremely bad
- Somewhat bad
- Neither good nor bad
- Somewhat good
- Extremely good

Q8 On average how long do you play online multiplayer games on a weekly basis?

- Less than 1 hour
- 1-4 hours
- 5-10 hours
- 11-20 hours
- More than 20 hours

Unsure

Q9 If you binge play online multiplayer games. how long would you play?

I don't binge my play-time.

1-4 hours

5-10 hours

11-20 hours

More than 20 hours

Unsure

Q10 What Online Multiplayer game do you play?

Black Desert Online

Call of Duty

Dota 2

Elder Scrolls Online

Final Fantasy XIV

Guild Wars 2

League of Legends

Overwatch

Phantasy Star Online 2

Smite

Valorant

World of Warcraft

Other _____

Q11 What Online Multiplayer game do you play the most?

- Black Desert Online
- Call of Duty
- Dota 2
- Elder Scrolls Online
- Final Fantasy XIV
- Guild Wars 2
- League of Legends
- Overwatch
- Phantasy Star Online 2
- Smite
- Valorant
- World of Warcraft
- Other

Q12 People ask about my gender or sex in-game.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q13 People give me positive comments in-game when they know I am a female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q14 People in-game are more supportive of me when they know I am a female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q15 The game becomes more enjoyable when people in-game know I am a female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q16 People in-game dismiss my ideas or opinions when they know I am female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q17 People in-game assume I need help playing the game because I am a female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q18 People in-game assume I am good at playing the game because I am a female.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q19 I feel that I am called rude names in game because of my gender/sex. Not because of the way I play.

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Q20 I feel that I am being harassed in game because of my gender/sex. Not because of the way I play.

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Q21 I feel comfortable when I reveal my gender/sex in-game.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q22 I feel safe when I reveal that I am a female in-game when asked.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q23 I trust the moderators or gaming community to side with me when I feel uncomfortable because of another player's words or actions in-game.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q24 I am the only one capable of protecting myself from harassment in-game.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q25 I believe that the gaming community is inclusive.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q26 I would share my personal problems with the gaming community.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q27 I actively avoid games where the gaming community is known to be unfriendly.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q28 If I want to enjoy a game, I hide my real life gender or sex.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q29 If I want to enjoy a game, I have to act more aggressive than I do in real life.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q30 I act tougher in game than I do in real-life.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q31 I avoid interacting with other people in-game in a way that can identify my sex or gender(ie. voice chat).

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q32 I purposefully choose a username that hides my gender/sex.

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Q33 I prefer to play a male avatar(if the option is presented) over a female avatar.

- Yes
- Sometimes
- No

Q34 What is your reasoning?

- Male avatars look better than female avatars
- Male avatars are stronger than female avatars
- Male avatars are more convenient than female avatars.
- I identify with a male avatar more than a female avatar.
- I don't want people to know I am a female
- Other: _____

Q35 On average, how do you feel after interacting with another player? (Choose all that apply and rank where 1 is what you feel most often/strongly)

- _____ Relaxed
- _____ Irritated
- _____ Empty
- _____ Annoyed
- _____ Refreshed
- _____ Excited
- _____ Stressed
- _____ Depressed
- _____ Isolated
- _____ Happy
- _____ Angry
- _____ Frustrated
- _____ Rejuvenated
- _____ Content
- _____ Joyful
- _____ Alone
- _____ Sad
- _____ Disappointed
- _____ Relieved
- _____ Anxious
- _____ Nervous
- _____ Enraged
- _____ Scared

Q36 I feel like quitting the game because of how I am treated by other players.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q37 How often do you feel like quitting the game because how often you are treated by other players?

- Never
- Sometimes
- About half the time
- Most of the time
- Always

Q38 I feel bothered by negative player to player experiences in-game.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q39 I actively think about the mistreatment in the gaming community after finishing a session of gaming.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q40 I am usually satisfied with my gaming experiences.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q41 How much of your player to player experiences are because of your gender or sex?

- None at all
- A little
- A moderate amount
- A lot
- A great deal

Q42 You have completed the internet survey. Would you like to volunteer your time to participate in the online interview?

- No
- Yes

Appendix D: Interview Questions

1. Describe to me what your experience with people has been like in online games.
2. Describe an encounter with another player that made you uncomfortable.
 - a. How did you handle the situation?
 - b. How do you think the encounter has shaped your interactions online?
3. What suggestions would you give in order to foster a comfortable community for female gamers? Why?