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**Nerf This! Navigating the Accessibility and Inclusivity of Video Games Through
Expressive Arts Therapies: A Literature Review**

Capstone Thesis

Lesley University

May 27th, 2023

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Expressive Arts Therapy

Dr. Kellogg

Abstract

This thesis explores the accessibility of video games to populations with disabilities, as well as the inclusivity of video game design, and how the application of expressive arts therapy (ExAT) can benefit in processing and navigating difficult feelings that may arise for a gamer in the video game community. Video games have evolved immensely since first being introduced in the 1970-s and come a long way to accommodate a diverse set of people, yet video games are still marketed toward and for ableist populations. This paper reviews literature on the limitations of video games for the player as well as the toxic nature of the gaming community and the benefits of video games on mental wellbeing. It also examines shared personal experiences with colleagues and my own lived experience of physical and mental limitations with video games. Findings suggest that video games can offer positive benefits on social skills and mental health and if they were more accessible to a wider audience, more individuals would be able to experience these benefits. Video games can be used as a therapeutic tool to explore worlds and landscapes that may otherwise be impossible, offer the player to use their senses to explore, play, and find meaning through use of the ETC, and help connect and reconnect relationships.

Keywords: expressive arts therapy, video games, literature review, disabilities, mental health, cyberbullying

Nerf This! Navigating the Accessibility and Inclusivity of Video Games Through Expressive Arts Therapies: A Literature Review

Video games have become increasingly popular and are more than just a leisurely activity for many. Video games have continued to gain popularity since first being introduced in 1975 with the video game *Pong*. Individuals now play video games professionally (eSports), as a means of income (streaming), and as an expression and extension of self. With its growth in popularity brings forth a larger consumer audience and the idea of who gets to enjoy and play video games in the way the developers intended. A majority of the controllers designed for the systems (also known as consoles) that video games are played on are built and tested by able-bodied individuals, disregarding the ease of use and needs met for a diverse set of populations. Microsoft is the only big-name video game company to have released an alternative controller in 2019 where the button mapping can be modified to meet individual gamers' needs. They also advertised this controller in a commercial during the Super Bowl, one of America's most watched television events, which benefited the company to reach a large audience in comparison to launching the controller on shelves without marketing it. The video game industry, unlike other entertainment industries, does not have a standard to meet when it comes to designing for accessibility. It is because of this lack of an international standard that not everyone is able to play and enjoy video games in a way that feels appropriate and comfortable to their lived experience. The industry is also very much male-dominated which creates barriers for feeling included and represented in video games by populations who do not fit socially-created norms (i.e., heterosexual able-bodied white male profile). In order to combat the needs that are not met by the industry, I introduce the use of using video games as a form of and in conjunction with expressive arts therapy and the benefits and limitations that come with it.

At the time of writing, I identify as a cisgendered pansexual white female with mental illnesses and a physical limitation of my right hand. This thesis topic in its beginning stages was a literature review with a focus on the accessibility of video games as a female gamer. In the initial focus I considered myself able-bodied and therefore the accessibility of video games amongst other marginalized populations, such as folx with cognitive and physical disabilities and/or limitations, was not a point of discussion. I find it important to name that it was not until I experienced a physical limitation of my own that the activity of playing a video game shifted from being a positive experience to being stressful and demanding physically. The physical limitation of no longer having full access to use my right hand led to a decrease in mental well-being as I became more aware of how difficult it is to use a controller with only one hand, which increased feelings of frustration, helplessness, grief, and depression. Video games are mostly used for leisurely purposes but can also be a coping mechanism, and I had to navigate new ways to cope through video games in this current experience.

With that being said, it is not my intention to fetishize or make a subject of fascination gamers who identify as disabled, but to allow for a more inclusive discussion on who gets to enjoy video games and what makes a game accessible for diverse populations. Anderson and Schrier (2022) discuss how problem-solving on the developers' end is the main component to understanding, approaching, and creating accessibility in video games. One way these issues can be understood by the gamer, is by processing and reflecting on experiences through expressive arts approaches.

Literature Review

Accessibility and Limitations of Video Games

While video games and their respective consoles are continuing to evolve and become better over time, there is still a large need for accessibility and inclusivity. Accessibility in this context is defined as “the condition to be met by environments, products, and services to be understandable, usable and workable for all people” (Aguado-Delgado et al., 2018, p. 3). When it comes to video games, developers have slowly begun to integrate features into their games to allow for accessibility; yet when advertising and marketing these same games, the majority of big-name companies (i.e., Nintendo, PlayStation, Xbox) do not advertise accessibility options. Ben Bayliss (2021) noted how individuals with a disability “are being included in the game itself, but not the marketing that lets them know the game exists” (para. 8). Oftentimes the audience discovers accessible features of games through social media postings or other gamer’s reviews, rather than through television advertisements and other forms of mass marketing. Take Naughty Dog’s game *The Last of Us Part II* for example, which won an award in 2021 for being the most accessible video game. The official gameplay trailer shown at the E3 conference in 2018 (PlayStation, 2018) of the game highlighted cinematic aspects, high quality graphics, and gameplay. What the trailer failed to include was an insight into the 60 accessibility settings, “with expanded options focused on fine-motor and hearing, as well as completely new features that benefit low-vision and blind players” (Gallant, 2020, para. 1). *The Last of Us* series are considered Triple A (aka AAA) games, which is the video game industry equivalent to “blockbuster” films in the movie industry. The official gameplay trailer is roughly eleven minutes long and it is not like the company did not have the budget available to showcase the games accessibility options. Advertising the accessibility features in marketing would benefit

gamers, as a larger audience is able to witness first-hand if they can participate in playing the video game or not upon release, rather than having to wait to hear from others if it is an inclusive title or not. I was unable to locate any AAA video game commercials at the time of writing that showcased accessibility features but was however able to find smaller company's video games (also called indie games) advertising to a more diverse audience. One such game is *Overcooked! All You Can Eat*, where a trailer is available that displays the games assist mode for accessibility (Team17 YouTube, 2020).

AAA games are the titles that most consumers want to be able to play because they are well-known titles (i.e., *The Legend of Zelda* series, *Pokémon*, *Dark Souls*, *Final Fantasy*) and are enjoyable to play. The majority of these big-name games, however, fail to include a large set of options for accessibility in the same way that *The Last of Us Part II* does. These companies have the budget available to do so yet fail to make their best-selling titles more universally inclusive.

Representation and Inclusivity

Not only are video games limited in accessibility physically, but they also lack representation through characters and storylines. Out of the all-time best-selling console games as of 2023 (see Figure 1), seven of the thirteen video games allow the player to customize their playable character(s) prior to starting the game's story or during gameplay. These video game characters are not fully customizable unless using a mod¹, and customization is limited to skin tone (often a small range of shades), sex and gender (usually listed as male/boy or female/girl; no inclusion of non-binary or transgender), hair color (also limited by a set number of colors), eye

¹ Video game modifications, or modding, is when players or fans, rather than the developers, change the coding or structure of a game (i.e., instead of a character holding a gun they are holding a banana).

color, facial hair, skin blemishes (i.e. freckles), makeup, scars/tattoos, age, height, and/or weight.

None of these best-selling games provide options for adding mobility assisted items

(wheelchairs, scooters, crutches/canes, etc.), respiratory assistive devices, visual and hearing

aids, and prosthetic limbs for character creation and customization. Appropriate inclusion of

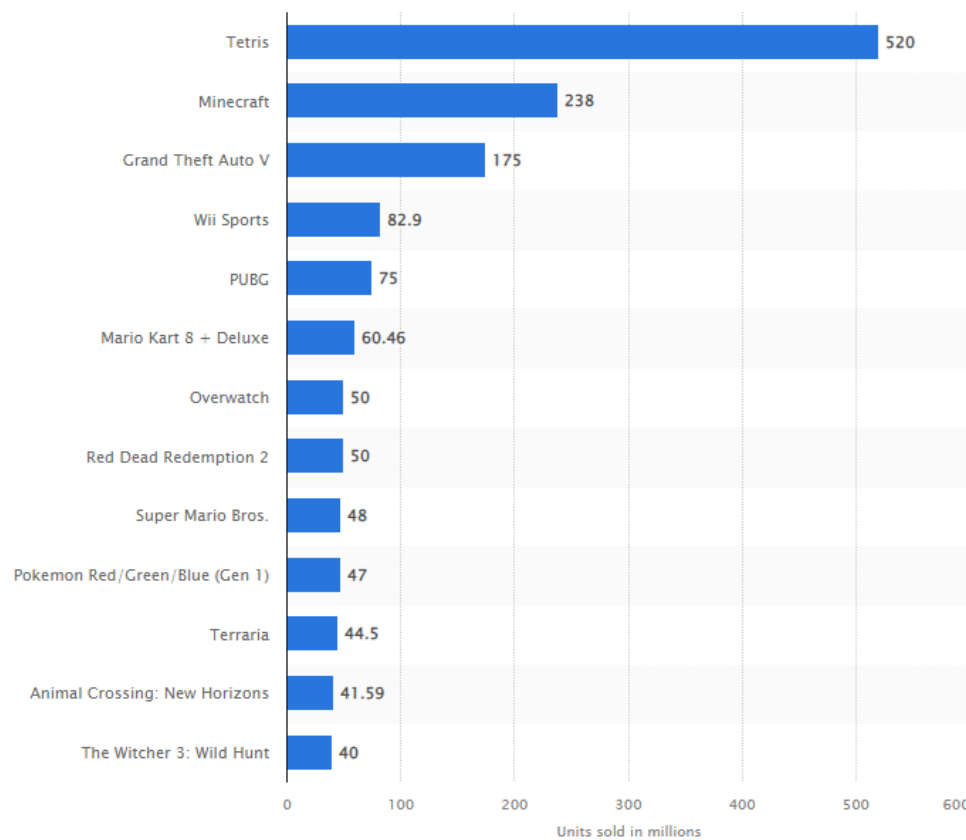
these features may allow for able-bodied individuals to better understand the lived experiences of

those that live with assistive devices and technology, which paves the way for future discussion

on how this could decrease cyberbullying by understanding others experiences and perspectives.

Figure 1

All-time best-selling console games based on global unit sales as of February 2023 (in million units)



Note. Table from Statista, 2023 (<https://www.statista.com/statistics/264530/all-time-best-selling-console-games-worldwide/>)

There are a handful of games that do offer a wider range of character customization but when it comes to representation, few are the main character that the player can control. Video game developer FromSoftware is not only well known for their *Dark Souls* series and similar games (*Elden Ring* and *Bloodborne*), but also for their character creator tool. Rather than the games providing a limited set of options to choose from (i.e., a pre-determined white, brown, or black for skin tone), they offer multiple color scales allowing the player to create a skin tone of their choice and liking, ranging from realistic to fictional (see Figure 2).

Figure 2

Character Creation Screen in Dark Souls



Note. From *Dark Souls – How to make HULK character* [video], by Lord Ran, 2012, YouTube (<https://www.youtube.com/watch?v=rodD2v4Umn8>)

Video games that offer representation for mental health and illnesses include *Celeste*, the *Silent Hill* series, and *Max Payne*, and physical disability representation is seen in video games such as

Wolfenstein: The New Order and *Metal Gear Solid V*. Some video games portray disability and illness negatively, where a character with a disability is portrayed as the antagonist and their disability being why they are problematic. To name a few, there is Nathan Prescott from *Life is Strange* who has schizophrenia and bipolar disorder and is portrayed as dangerous and unstable; the wheelchair-bound huntsmen in *Bloodborne* who can only defend themselves through violence (“Bloodborne Wiki”, 2014); and *Outlast* which is set in an asylum environment and depicts the patients as deranged and “crazy”.

Adaptive Hardware and Financial Accessibility

The financial aspect of video games also leaves room for discussion, as special controllers and devices are necessary for individuals who are not able-bodied, in order to enjoy and experience a video game in the same way able-bodied individuals do. Microsoft Xbox’s adaptive controller for example, “designed primarily to meet the needs of gamers with limited mobility” (Xbox, n.d.) has an estimated retail price (ERP) of \$99.99 and can be used with Xbox One consoles (originally released in 2013) and with Windows 10 and 11 on a computer. This price does not include additional assistive devices that can be added to the adaptive controller, such as the thumb stick and trigger inputs and adaptive mouse. In 2022, Microsoft announced at their Ability Summit conference a plan to make technology and hardware more inclusive by using 3D-printed software designed by Shapeways to meet individual consumer needs (Dame, 2022). The 3D-printed attachments are added to Microsoft’s adaptive accessories such as the controller, mouse, joystick, etc. and range in price from \$11 to \$70. Microsoft at this time does not offer a bundle that includes the adaptive controller with attachment accessories; all are priced separately. Sony PlayStation announced at the beginning of 2023 their plans for a gaming accessible controller, currently termed Project Leonardo (PlayStation Blog, 2023). Due to the

controller still being in development, there are no financial figures available. The upside to PlayStation's adaptive controller is that all of the components come together, rather than being sold separately like Microsoft's. The downside is the controller will not be compatible with PlayStation systems released prior to the PS5 or with PC gaming until a modification is made available. Nintendo is one of the big three gaming companies yet is also the only company to have yet to develop a controller for accessibility. There are third-party companies that have released their own accessible controllers for the Nintendo Switch console, such as the Hori Flex Assistive Controller, which is licensed by Nintendo and can be used with PC gaming as well. This adaptive controller has an ERP of \$174.99 and attachments and accessories are sold separately. Another notable third-party company is Tobii, which has developed eye-tracking hardware that can be used with PC gaming to allow individuals with motor impairments to enjoy video games. Some AAA titles that can be used with the Tobii Eye Tracker 5 include *Farcry 5* and *6*, the *Assassins Creed* games, and *Final Fantasy XV* to name a few. This device runs at \$259 and its mounting kit is sold separately at \$19.95. The Quadstick is another accessibility option that is designed for quadriplegics and can be used with PC gaming and most consoles (a converter is required for some consoles and is sold separately). There are three different versions available and the ERP starts at \$449; accessories such as mounting kits and adapter kits are sold separately and range from \$30 to \$149. The Quadstick "is a mouth operated game controller [...] that converts the sensor inputs into USB and Bluetooth signals for PC's & Game consoles" (Quadstick, n.d.). There are programs available that can assist with covering the costs of accessibility controllers such as Medicaid, the VA, and charities like Able Gamers and Make a Wish.

Toxic Gaming Community

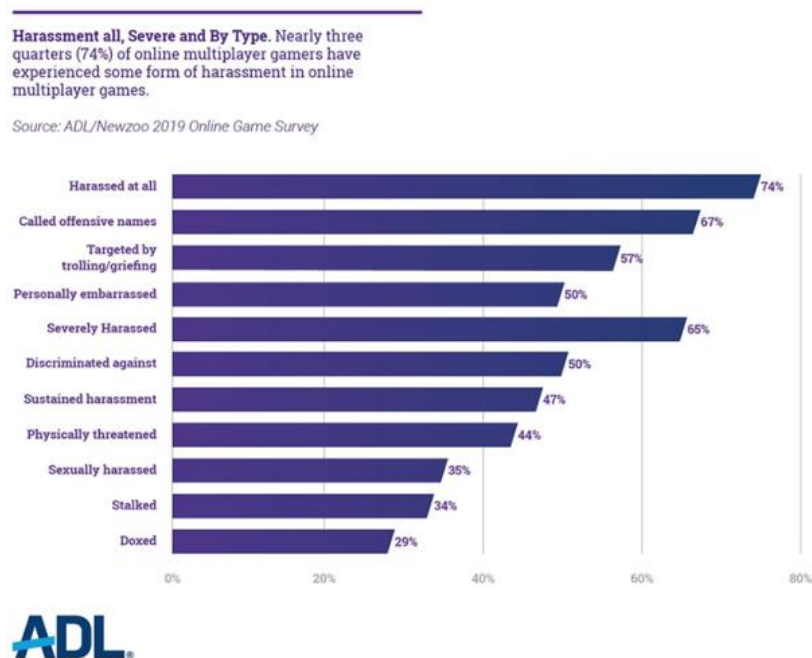
Video games that include online play with other gamers, such as massive multiplayer online roleplaying games (MMORPG) like *World of Warcraft*, social simulation games such as *Animal Crossing: New Horizons*, and first-person shooter games (FPS) such as *Call of Duty*, amongst many other genres allow gamers to play alongside other gamers over the internet. A large amount of these online games allows gamers to communicate with one another either over voice over internet protocol (VOIP), text-only chat channels built into the game, or through external applications such as Discord to allow for collaboration and successful teamwork to win. Although communication is not necessary to win in an online game, it can be beneficial in that it not only allows players on the same team to satisfy essential psychological needs which increase well-being and enjoyment (Westerlund, 2021, p. 14) but also receive real-time feedback on performance, skill improvement, and building social connections (“Online video gaming benefits”, n.d.).

However, playing video games online is not always a positive experience and can be a toxic environment for those who do not fit the cisgender, heterosexual, able-bodied, male profile. The video game community, as well as research done on gamers, is largely gender and age biased. Prejudiced behavior and discrimination toward marginalized populations such as LGBTQIA+, people of color, mentally and physically disabled individuals, and those with multiple intersecting identities is an ongoing issue in the video game community (Cary & Chasteen, 2022). Anyone can experience harassment online, but in the gaming community those who are a part of marginalized populations are more susceptible to experiencing cyberbullying in its many forms, such as microaggressions, sexism, racism, ableism, verbal assaults, threatening

comments, swatting² and doxing³ (Ballard & Welch, 2017), as shown in figure 3. Exposure to cyberbullying and toxic communities can be detrimental to one's well-being, where online play can become associated with traumatic experiences and create feelings of anxiety and a lack of trust when gaming with strangers (see Figure 4 in Appendix A). This makes video games less accessible for all to participate in and enjoy. It is important to note that a majority of online games now allow the player to disable game chat features, which may benefit in the reduction of online harassment. Yet at the same time a player can have their microphone disabled and still hear their teammates who have their microphones enabled, potentially leading to harassment (see Figure 5 in Appendix A).

Figure 3

Types of Harassment



² Swatting is a dangerous form of prank calling where armed officers are deceived into being dispatched to the gamer's house while they are live streaming.

³ Doxing is making personal, private information public without the individual's consent.

With the increase in video game popularity came the creation of live-streamers, individuals who play video games live through a social platform (such as Twitch, YouTube, and TikTok) for spectators to watch and comment on in real-time. Currently the most popular platform used for streaming is Twitch. The gamer is able to share real-time gameplay as well as webcam video of themselves playing for their audience. Twitch also offers a subscription-based option where spectators who are subscribed to the user's channel can utilize the text chat function to communicate to the streamer and other spectators. Those who are not subscribed can still spectate the gamer but will not see what is being said in the chat. The issue with live streaming as a gamer that does not fit the hetero white male profile is the lack of moderation during the live, especially for lesser-known streamers who stream for leisurely fun and not as a source of income (Ruberg et al., 2019). Discrimination and harassment are more prevalent for the streamers who utilize webcams and VOIP while playing live. Although Twitch is more moderated than other streaming platforms, spectators can still manage to comment something objectifying, for example, and get away with it. In a 2016 study done on public chat rooms of Twitch, one of the most popular video game streaming platforms, to investigate how gender inequality shows up, Nakandala et al. found that

Many viewers choose to watch and comment in only male or female channels and their messages are similarly gendered; the messages posted by users who comment only in female channels tend to have semantic similarity with objectifying cues while those who comment only in male channels tend to have semantic similarity with more game-related terms. (2016, p. 12)

Their analysis was based on 71,154,340 messages in 2014 and examined male and female streamer's channels that were in the top 100 in reference to popularity, and 100 less popular

streamers. The study only considered streamers who showed their face in their live streams (therefore streamers who wear masks or are VTubers⁴ were not included) and who use English in their profile and chat. The researchers explored language used in chat to identify gendered terms such as physical appearance, one's body, relationships, and greetings.

This study brings me to another important topic of discussion in the video game community, specifically with streamers, where Ruberg et al. (2019) discuss masculine fragility and the issue of double standards with male-identifying gamers and audiences. The term “titty streamer” is an unfortunately popular derogatory label used to define women who live-stream themselves playing video games, who usually put more emphasis and focus on their bodies and physical appearance than the video game itself. This type of streamer is stereotyped as using their bodies as a way to gain more viewers, ergo more donations and monetary success. Ruberg et al. (2019) conducted a study that observed data from Twitch streamers that focused on how women are discriminated against and harassed by the online gaming community, with the goal being to understand the ways derogatory comments and labels provide insight into much larger cultural beliefs and attitudes of the gaming community by deconstructing gender-based harassment. The researcher's methods for acquiring data were by searching through the Twitch forum on Reddit, an online discussion board, for terms that were discriminatory against women. Twenty-one forum threads were studied between 2015-2017, where Twitch saw a peak in its success since creation in 2011. Terms that appeared often included titty streamer, cam girl, boobie streamer, and thot. A limitation to using Reddit discussion boards is that the comments do not include identifying data and users can post anonymously. This creates an unknown on if the

⁴ Virtual YouTubers. Streamers who use a virtual avatar rather than showing their real face. Real-time motion capture software is often used to capture movement and facial expressions.

commenters are viewers, streamers, or both as well as other identifying information such as age, gender, race, and class which could benefit further analysis of themes that arise in toxic gaming culture.

Analysis of data proved interesting results, one of which being that “titty streamers” are viewed similarly to cam girls/sex workers as they are not focused on playing video games, but rather playing the game – utilizing the platform to make money. Male viewers and streamers commented their frustrations on how difficult it is to become a streamer for a living, yet women are able to use their bodies to take the “easy” route to success. By delegitimizing female gamers and streamers, the gaming community is able to limit the participation and inclusion of women in the culture, allowing “gaming culture [to remain] as a space of masculinity” (Ruberg et al., p. 478). Due to many Twitch users complaining about these types of streamers, the platform created strict guidelines for streamers and is now heavily moderated to cater toward discriminatory attitudes “that surround the ways that women’s bodies are presented, performed, and policed in video game live streaming” (Ruberg et al., p. 479). The irony behind this is that Twitch proclaims to be a space of self-expression and community building yet places strict guidelines on women and how they can present themselves when live streaming. Are men’s bodies, attitudes, and beliefs policed in the same way that women streamers are? For those streamers who have intersecting identities and/or are part of a marginalized group in gaming culture who have also been exposed to danger through online harassment, how are they provided fairness in comparison to cisgendered, heterosexual, able-bodied white men? Are there guidelines policing them as well in the gaming community which limits their success?

Online aggression and sexualization can be traumatic and takes something that is supposed to be fun and safe away from the player. There is a lack of research available on

resolving trauma that stems from the video game community for marginalized populations, as well as an overwhelming lack of research to incorporate arts-based practices into therapeutic sessions for gamers. There is however a substantial amount of research on male-identifying gamers that ranges from the negative effects video games have on behavior, internet gaming disorder and addiction, to the positive effects video games can have on social skills (Lopez-Fernandez et al., 2019). Trauma and healing are explored for male-identifying individuals, yet when inputting search terms for their female-identifying and non-binary counterparts, research and evidence-backed treatments are lacking and unexplored.

It is important that this issue not go unnoticed and that toxic gamers be held accountable for their problematic behavior, as ignoring them only reinforces them to continue to harass others and harassing them back feeds into the problem. It is also not always safe or healthy for one's well-being to be exposed to recurrent online harassment as it can create debilitating fear and trauma, resulting in "emotional responses ranging from feelings of anxiety, sadness, shame, isolation, vulnerability, and unsafeness" to "developing serious mental health problems such as anxiety disorder, depression, panic attacks, agoraphobia, [and] self-harm" (Jane, 2020, p. 8).

Benefits of Video Games

The majority of research done on video games has investigated the negative aspects of play, such as addiction and aggressive behaviors. While video games often receive a negative stigma, there is more to them than just violence and aggression. Research has also demonstrated that video games can have positive effects on well-being, specifically in the cognitive, motivational, emotional, and social domains (Granic, Lobel, & Engels, 2014, p. 1). Granic et al. (2014) discussed Erik Erikson's theory on play and how the same concepts addressed by Erikson (i.e., experimenting and planning) can be explored through video games. Although Granic et al.

(2014) only focused on the benefits of video games for children and adolescents in reference to growth and development, it is important to note that play is crucial for adults as well. There is no age limit on who is allowed to play and enjoy video games and video game ratings range from E (for everyone) to M (for mature audiences) and game designs vary based on target audiences. The video game *Celeste*, for instance, takes the player through the character's journey of living with anxiety and depression; *NieR: Automata* explores themes of grief, loss, and understanding one's purpose/meaning in the world; and *Persona 5* explores themes of resistance and freedom from societal power structures. While anyone could have access to playing these games, the metaphors and stories that arise in them may be more relatable to young adults and adult audiences, in comparison to games that are designed with younger audiences in mind and have no underlying relatable themes (i.e., *Mario Kart* series, *Fortnite*, and the *Taiko no Tatsujin* rhythm games).

While video games' main purpose for players is entertainment, many studies have been conducted on the psychological nature of video games on the player and how mainstream and commercial games can benefit cognitive functioning (Choi et al., 2020). Commercial and AAA titles mostly focus on the entertainment aspect as their main selling point but these same games often contain puzzles or decision-making moments that require critical thinking, problem solving, and visual processing skills to progress. Granic et al. (2014) mention how young video game players learn through trial-and-error rather than linear instruction (p. 4) and what makes this piece of information important in reference to cognitive functioning is understanding that real life does not come with an instruction manual. Everything one does in this video game called life is through making mistakes and learning from them by thinking about how to approach the situation differently to obtain a successful outcome. Granic et al. (2014) also noted

that in order to do so, this requires being able to gather information (through visual and auditory skills), reflect on previous experiences (using memory skills to figure out what went wrong and where), plan strategically (critical thinking and problem solving), and approaching the problem through a creative lens (thinking outside of the box; taking the hidden path; speed running a game⁵).

Social Benefits

Mental health and wellbeing became an important topic during the COVID-19 pandemic in 2020 when many countries were placed on lockdown. Individuals were limited from social gatherings, seeing loved ones and friends, running errands, going to school, etc. for months. Being stripped of one's normal lifestyle and being confined to stay in one's home can be difficult on mental health and lead to symptoms of depression and anxiety from isolation and living in the unknown. It was during this time though that many found solace through video games, most notably the Nintendo Switch game *Animal Crossing: New Horizons*, released in March 2020, the same month those living in America were placed on lockdown. Yee and Sng (2022) conducted a study on how video games contribute to wellbeing, especially during times of distress, by looking at what motivations drove people to play *Animal Crossing: New Horizons* during the pandemic and how psychological needs are met through these gaming experiences. *Animal Crossing* is a popular series of games where the player (a human) lives on an island with anthropomorphic animals. The basis of the games is that the character you create and play as has to help develop the town and island you live on. This is done by borrowing money from the raccoon character Tom Nook, where the player can then build, expand, and customize their own

⁵ Speed running is when the player completes a video game, or level of a video game, as fast as possible.

house, add neighbors, shops, museums, foliage, and decorate the town however they please.

Animal Crossing: New Horizons added the feature of terraforming, which allows the player to change the landscape of their town by adding or destroying cliffs, waterways, and walkable paths. It also includes an online multiplayer function allowing the player to visit other people's islands (friends or strangers) to hangout, buy or sell items, play minigames, and receive inspiration for their own town's design. Many individuals found that this game in particular allowed for a safe and fun way to socialize during the pandemic, when doing so in the real world was not possible. The game became so in-demand that the console it is played on, the Nintendo Switch, was sold out through most online retailers, as well as physical copies of the game. This game is a great example of how humans are motivated to have some form of control in their lives. Whether during a pandemic or not, having the ability to play as a video game character that has control over *their* life when feeling a lack of control in one's real life, satisfies psychological needs of autonomy, relatedness, and competence, as concluded by the authors of the study.

The researchers for the study sought participants by posting invites on the most popular discussion boards and forums at the time, which included Reddit, Discord, and Facebook groups. Participation was open to all players and 17 were recruited for the study, between the ages of 18-34. Participants were interviewed through videoconference platforms over the course of one year (August 2020-July 2021). Interviews were semi-structured following the Basic Psychological Needs Theory (BPNT) framework, which is part of the Self-Determination Theory. Basic Psychological Needs Theory identifies autonomy, competence, and relatedness as basic psychological needs where "satisfaction is necessary to move towards increasing self-organization, adjustment, and flourishing" and frustration of these needs represents "a stronger and more threatening experience than the mere absence of its fulfilment" (Vansteenkiste et al.,

2020, p. 3). Open-ended questions were posed in the interviews and explored “gameplay habits, emotional experiences, and observations about other players” (Yee & Sng, 2022, p. 4). Data was analyzed through a 2-step process where emerging themes and concepts were identified and coded. Themes were then mapped onto the BPNT constructs.

Five main themes were identified yet the study only discusses three, as they aligned with previous research. These themes include the need for autonomy, relatedness, and competence, key motivators for playing *Animal Crossing: New Horizons* during the pandemic. Researchers also found that interactions of the player’s character with non-playable characters (NPC’s) satisfied the need of relatedness. However, the authors fail to mention that in order to play online with friends or strangers who also own the game, an internet connection and subscription to Nintendo’s online service are required. This limits the players need of relatedness in reference to playing with friends to those who have the privilege of having internet and a subscription. The accessibility of being able to play and experience this in-demand game at the time was also limited as unemployment, layoffs, and workers hours being cut went from 1.5 million in March to 18 million in April (U.S. Bureau of Labor Statistics, 2021). If an individual did not own the Nintendo Switch, which retails at \$300, prior to the pandemic, it would have been much more difficult to obtain one during due to financial setbacks and the console selling out globally. It is important to note that any video game could have been played during the pandemic and an individual may have experienced similar effects of autonomy, relatedness, and competence, but *Animal Crossing: New Horizons* was one of the only AAA games to debut during lockdown that offered online multiplayer and captivated gamers and non-gamers globally.

Implications of results suggest that video games may provide a space for creative expression of grief during difficult life experiences, and that “policymakers and healthcare

professionals can consider the use of video games to promote mental wellbeing and use the BPNT as a framework to guide their selection of games for people who can benefit from it” (Yee & Sng, 2022, p. 11). I utilized *Animal Crossing: New Horizons* to explore feelings of grief within my own friend group during the pandemic, by celebrating birthdays in the online space (see Appendix A) and playing minigames such as hide-n-seek, a game not often played by adults, but the idea of play and creativity during this time brought comfort.

A colleague of mine shared a personal experience of how video games helped her sister cope during lockdown in 2020 and for years following the COVID-19 pandemic. Being diagnosed with MS in 2020, she was unable to leave her apartment and had to take great amounts of caution up until 2022.

[My sister would] play a video game where she was deer hunting in Alaska, and I have this photo of her where she is in a reclining chair and enjoying her game for hours while on pain medicine. You can tell she’s in pain...it was in the heart of the pandemic and she was quarantined for a long time. This [video game] brought her joy because she could be in a cold climate, in the woods, surrounded by trees, from her then very tight apartment [...] they helped her connect with nature and feel outdoors when she couldn’t leave the house – she felt unsafe when outside because of others who refused to wear masks (A. Reinhardt Kohlberger, personal communication, May 1, 2023).

Mental Health Benefits

Another way video games can benefit mental health is through mobile apps. It is common in 2023 for individuals 13 years of age and up to own a smartphone in the United States. While a phone’s main purpose is for communication, it is also used for entertainment, games, and health.

Being able to have access to self-care anywhere you go through your smartphone can be beneficial for those who need reminders or to journal during moments of distress, which is what apps like Finch do. Finch is a self-care app that is free with in-app purchases, where the user/player helps to grow a baby penguin through daily self-care routines. The app asks questions about how the user is feeling, provides a space for bullet journaling, stress and anxiety relief techniques, yoga and light exercises, soundscapes, and reflections. It is also a game though, where the more activities and goals the user accomplishes, the more their penguin grows and currency is received, which can be used for dressing up your penguin and decorating their house. Friends can also be invited to your penguin's little world to help hold you accountable for completing your daily tasks, routines, goals, etc. Having a portable self-care game that is always with you via one's smartphone can help those who struggle with remembering to keep up with self-care or to have in-the-moment breathing exercises to relieve a panic attack. Other apps that are beneficial for mental health include Daylio, a journaling app; Headspace, used for mindfulness; Calm, which provides guided meditation and helps with sleep; and Chill Panda which can monitor heart rate and suggests techniques for your current state.

Video games can also be utilized in addition to therapeutic treatments. Caroline Bryan, a Licensed Professional Counselor Associate (LPCA) and expressive arts therapist with interest in geek therapy⁶, has worked with clients in the therapeutic space and incorporated video games as an intervention. One example she provided in an interview was working with a 10-year-old who had a background of loving video games and their experience of playing *Minecraft* together.

Minecraft is an online game where the player(s) collects and mines resources to build their own

⁶ Geek therapy is when video games, anime, comic books, and other “nerdy” interests are incorporated into therapeutic processes and interventions.

worlds through either a survival mode or creative mode. Bryan mentioned how the video game was “a great opportunity to change the power dynamics,” because Bryan had little experience playing the game whereas the child played often (T. Golando, personal communication, March 7, 2023). He created a three-story house out of materials found in the game and set up the living space so that his and Bryan’s character would be taken care of (i.e., included a bed and lanterns). Bryan also mentioned how the client had been in many hospitalization settings with different therapists during those times and he couldn’t understand why he needed therapy, therefore showing little interest in it. “Video games allowed us to sit at the same table and talk, versus him not wanting to talk at all or playing a game by himself.” It may be difficult for children to understand why they are in therapy, and especially more difficult to trust an adult stranger to talk to. Video games can complement non-verbal communication and have potential to be an easier means for a younger client to express themselves versus traditional talk therapies. Video games are not accessible to all clients though and for minors they may require consent from their parent(s) or guardian(s), so it is important for the therapist to acknowledge limitations and privilege.

Video games can be included in a multitude of different therapeutic areas and is not limited to being used only with youth populations. Video games can be used in the absence of therapy or included in a therapeutic session to navigate relationship issues (romantic, family, or friends), chronic pain, post-traumatic stress, phobias, anxiety, and grief, to name a few. Current research available on these topics also includes introducing virtual reality (VR) technology into treatment. For example, VR can be utilized in the Metaverse to explore social skills for clients diagnosed with social anxiety, or for use in rhythmic games such as Beat Saber that can assist in anger management by using alternatives methods for emotional regulation. “VR can provide

remarkable improvements to various medical treatments, enabling [health care] providers to deliver more positive experiences for patients by creating virtual 3D environments” and “it can assist [health care] staff in collecting and sharing health data via simulation systems, which can play roles in medical decision making and distance learning” (Liu et al., 2022). Integrating VR into therapy allows for an individualized immersive experience while at the same time being controllable for the patient, such as removing the headset, controller, etc., whereas exposure therapy without VR may be more limited in reference to the control that the patient has to the situation. Garrett et al. (2017) explored the value of VR for chronic pain patients in Canada, stating that VR has the potential to change sensory, affective, and cognitive features of the experience. This can be applied to other areas of mental illness as well such as eating disorders, autism spectrum disorder, and perpetrators of domestic abuse.

One video game that can be beneficial for couples experiencing a low point in their relationship is *It Takes Two*, a co-op game⁷ whose narrative is on the hardships of getting along (in this case the characters in the game are married and considering divorce) and the effects of their relationship on their daughter Rose. The players play as May (the mother) and Cody (the father) who are transformed into tiny dolls and must cooperate and problem solve together in order to successfully get through the levels. Communication between players is an important mechanic of the game as it mimics the importance of communication in real life. As a co-op game, the screen is split in half and when faced with challenges in the game, there are moments where one player has to call out obstacles and objectives they see on their side of the screen in order to help the other player get past hurdles that are not apparent on their side of the screen.

⁷ Co-op games are cooperative video games where one or more players work as a team to achieve a common goal.

Successful gameplay requires patience and support from both players and can provide the players with feelings of relatedness, as I felt when playing with my partner. The game explores challenges of a relationship such as time management, household responsibilities (socially constructed gender norms), and respect towards your significant other, which can be key moments to explore therapeutically.

Expressive Arts Therapy

Expressive arts therapy (ExAT), also known as creative therapies or expressive therapies, refers to the creative process as therapeutic and healing through a combination of visual arts, movement and dance, drama, music and sound, writing, and other modalities which foster personal growth and community development (The International Expressive Arts Therapy Association). Expressive arts therapy in practice differs depending on the individual client's needs as it is about meeting the client where they are at emotionally, mentally, and physically. There are no limits as to what mediums can be used with the client. Perhaps a client does not respond well to music therapy but finds writing poetry to be calming. The therapist can then invite the client to create movements to the different stanzas in the poem or act them out. This process is referred to as intermodal transfer, termed by one of the founders of expressive arts therapy, Paolo Knill. "Intermodal expressive arts is rooted [...] in human imagination and play and is characterized by an inter-relatedness among the arts" (as cited in Levine et al., p. 119) and intermodal transfer is "the shifting from one art form to another" (p. 125).

While the ExAT field is still developing globally and claiming a name for itself in mental health care, as it is the newest of the creative therapies, it is important to acknowledge the accessibility and benefits of this therapeutic practice. To reiterate, the expressive arts meet the client where they are at. Whether the session is completed virtually via telehealth or in-person, in

a school or prison setting, inpatient or outpatient, individual or group therapy, the therapist is able to utilize the space of the session to create and maintain safety and build a rapport with the client(s). Even if the client has no art-making materials or background in arts processes, the therapist uses what is available to promote the idea of using found objects, play, and imagination to allow for healing to take place. Expressive arts therapy does not emphasize the product that results from artmaking, but rather the experience of making or doing something and what emotions, feelings, thoughts, reflections, and/or narratives emerge during that process (Levine & Levine, 1998). The expressive arts have been utilized with a diverse range of populations and for the context of this paper, effectiveness and benefits will focus on available research for marginalized populations and how introducing video games into ExAT practice can further promote wellbeing.

The Expressive Therapies Continuum (ETC) can be useful for clients navigating accessibility and inclusivity in video games. The ETC is a framework for using art in therapy and is how client's "classify interactions with art media or other experiential activities in order to process information and form images" (Hinz, 2009, p. 4). The ETC is split into four levels: the first level is kinesthetic/sensory, where information is gathered internally and externally through the senses; the second level is perceptual/affective, where processing is emotional and raw and image may be abstract/have no form; the third level is cognitive/symbolic, where information processing seeks to gather meaning; the fourth level is creative, which can happen during any level of the ETC as it is an integrated function (Hinz, 2009, pp. 5-7). Playing a video game is the tool in a therapeutic context that allows the player to experience different levels of the ETC by exploring the virtual space through their senses (Kinesthetic/Sensory level), expressing feelings that arise through visual art, movement, or sound and where in the body that arises from

(Perceptual/Affective level) and dialoguing with the image through third-person (Cognitive/Symbolic).

Kinesthetic/Sensory

The Kinesthetic/Sensory level of the ETC is where the individual experiences art-making and the world around them through sensory input. This stage is purely about the process of play and exploring through the senses, where instructions provided by the therapist are minimal. Using video games as a tool at this level allows the player to explore different soundscapes and landscapes through visual and auditory stimuli. The inclusion of guided imagery and meditation by a therapist can help to activate the other senses of taste, touch, and smell. Exploring through the senses in a video game could include the sound of running through a patch of grass, trudging through snowy terrain, or swimming in a lake, such as in *The Legend of Zelda: Breathe of the Wild*. According to a recent study by the University of California San Francisco and Akili Interactive Labs, individuals who live with sensory processing dysfunction (SPD) and ADHD could benefit from video games that offer sensory input as a behavioral intervention (Akili, 2017).

Perceptual/Affective

This level of the ETC is a continuation of the Kinesthetic/Sensory level, focusing on emotional awareness and where in the body one experiences those emotions. Perceptual “focuses on forms and their differentiation” and the affective “is characterized by increased involvement with and expression of affect, and affective modification of forms” (Lusebrink, 2010, p. 171). Taking from the previous example of exploring soundscapes and landscapes in *The Legend of Zelda: Breathe of the Wild* (BotW), the therapist can invite the player to express emotions that arise from the gameplay experience through creative means (i.e., sound, bodily movement,

poetry, painting). Another aspect of BotW is cooking with found materials to keep your character's health and stamina up. What feelings are affected by the experience of having to collect animal meats and herbs to cook up a dish to restore your health? What feelings arise when you are desperate for health and arrive at a campfire that enemies are hanging around? In translating these feelings into creative expression, form, symbolism, and meaning begin to manifest from action (Graves-Alcorn & Kagin, 2017, p. 14), which brings the client into the next level of the continuum.

Cognitive/Symbolic

The third level of the ETC is more complex as the individual attributes meaning and understanding through cognitive operations and symbolic expression that arise during their creative exploration. Intuitive problem solving, self-discovery, and spiritual insight are some of the outcomes attained at this level (Lusebrink, p. 173). Continuing from the BotW example, an image may have been created of a figure running away from a large, vibrant circle of color in response to seeing enemies at a campsite. When the therapist asks if anything symbolic comes from this, the player may come to the realization that they choose to run from challenges to find a safer option, rather than fight them head on. This is a hypothetical example of course, but it illustrates how the way gamers come to their decision-making and problem solving in video games can be reflective of their real-world executive functioning skills.

In-Game Photography and Phototherapy

One means of exploring expressive arts through video games is through virtual photography and phototherapy. Virtual photography differs from traditional photography in that the products emerge from fictional realms, often as screenshots from video games which is referred to as in-game photography, and can be edited on the gaming console's picture storage or

gallery space, through external programs like Adobe Photoshop, or in-game via photo mode. Photo mode allows the individual behind the camera (in this case the gaming controller) to freeze the game to capture a screenshot and re-work the image by manipulating the lighting, perspective, and saturation, as well as apply filters, text, frames, stickers, and more depending on the game. Virtual photography and photo mode invite the individual to engage with their senses which is the foundation for exploring emotions and personal narratives (Malchiodi, 2019), manipulate the world within the game, and tell a story through nonverbal communication, similar to traditional photography. Communicating through nonverbal means, such as creative processes, can benefit those who find talk therapy to be challenging, especially when being unable to put words to how one feels. Creative processes, whether visual, music-making, re-enacting, or dance/movement, “makes tangible the essence of what’s experienced by the body when words may not capture it” (Malchiodi, 2019, p. 4). Virtual photography has the benefit of providing the user with the opportunity to visit worlds and environments that would be impossible in real life. Even with games that are based on real world places, such as the *Grand Theft Auto* series and *Assassin’s Creed: Brotherhood*, the user is able to connect to the video game and imagery as if they were actually there. This is beneficial in reference to accessibility in that it allows those who are unable to travel to have a way of expressing their feelings and coping with life challenges through these tools. In-game photography allows for memories to be saved through screenshots as well as connections to the game’s narrative, characters, and/or landscapes to be explored through expressive arts [see appendix A for example].

An extension to virtual photography is viewing the images in virtual reality (VR). While this is more of a difficult process and may not be as accessible for the general public, from a therapeutic lens it can be a beneficial addition to exposure therapy and bereavement therapy, to

name a few. VR allows the user to be in the same space as the image and re-experience memories captured through photographs or videos, or experience something for the first time. For individuals recovering from grief or loss, for example, VR allows them the ability to be in a photograph and sit and dialogue with the part of them that is grieving (i.e., death of a person or pet, their younger self, life prior to injury or illness). This is similar to techniques used in phototherapy, where the therapist may ask the client to dialogue with the image.

Phototherapy is the therapeutic use of photography and visual media. It is “connected to photography with a view to positively affect psycho-physical health and social functioning of an individual [...] and can reduce an individual’s problems, or it can be only a preventive activity to help strengthen one’s mental health and promote personal growth” (Peljhan, 2015, p. 9). Similar to other forms of creative therapies, the therapist may open the session with a prompt, such as ‘how do you currently feel?’ and invite the client to create an image through video game screenshots. Photographs can be arranged in different ways by cropping, stretching the image, distorting colors, etc. to convey how the client feels. In my own exploration of using phototherapy during a time of grieving, I conveyed feelings of confusion, depression, and the unknown by taking screenshots from video games I was playing at the time that resonated with those feelings and using a photo-collage method to arrange the images around a selfie I captured of myself (see appendix A). I noticed through using video games to cope through grief, returning to the games I enjoyed as a child contained themes that I would not have picked up on back then. In *The Legend of Zelda: Majora’s Mask* for example, themes that resonated with me through my current playthrough included loss of identity, hiding my true self behind a mask, and the universality of problems and experiences. During the process of arranging the images, I noticed myself tearing up and used that opportunity to dialogue with the image, to better understand what

I was experiencing. Phototherapy does not have to include an image of the person behind the camera, but oftentimes the therapist will utilize self-portraiture to assist the client in recognizing their needs and feelings which can improve self-esteem (Loewenthal, 2013, p. 148).

Discussion

The purpose of this literature review was to examine and understand the limitations of video games through an accessibility and inclusivity lens, and how video games can be incorporated as a tool with expressive arts therapies to explore feelings that arise as a result of these limitations. This literature review explored research on video game accessibility marketing, inclusivity of character designs, available adaptive hardware for non-able-bodied gamers and the costs, cyberbullying in the video game community, negative effects of toxic gamers, the social and mental health benefits of video games, the expressive art therapies and its benefits, and how video games can be used as a therapeutic tool both in and outside of a session. Research on video games has a priority in understanding the effects of violent and other negative behaviors, mostly in male subjects, and is lacking on the positive benefits it provides to a diverse set of peoples. As far as video games go as being used as a therapeutic tool alongside the creative therapies, there is little to no research currently available. Research within the field of ExAT could benefit from exploring the positive effects video games can have on marginalized populations.

While the initial aim of this literature review sought to explore using the expressive arts to heal trauma of female-identifying gamers, my own experience of living with an injury and mental illness shifted and opened the review to be more inclusive. I realized my own frustrations in being unable to play video games, a hobby that prior to being in an auto accident brought me joy and escapism, to being unable to escape the reality that playing a game was now difficult and

not accommodating to my condition, which added to the negative effects of my mental wellbeing. Through creative expression I was able to document and better understand these feelings, utilizing the ETC in my own art-making and gameplay. This provided me insight into how I, and others, can advocate for video games to be more user-friendly and incorporated into therapeutic practice. Even outside of a therapeutic space, from the comfort of one's home, having the ability to come home after a rough day at school or work and ground oneself through the action of playing a video game, displays the idea that video games can have a positive effect on mental health.

The use of video games as a modality is currently limited in the mental health field. This field could benefit from further research on the positive effects video games have on one's well-being mentally, as research on physical benefits (i.e., physical therapy) already exists. I acknowledge the limitations of financial costs and availability that come with utilizing video games in a therapeutic space but perhaps in the future when more research is available, video game companies or insurance companies can offer lower prices for medical use of their consoles and games. These companies and practitioners may also benefit from more studies on the benefits of incorporating arts-based methods with video games. The virtual world within a video game can be a safe space for an individual; working within that safe space through creative approaches may benefit verbal and nonverbal clients. During the Covid lockdown of 2020, communicating in-person became limited and most individuals were forced to communicate through technology (i.e., Zoom, Google meetings, Facetime, Discord). The majority of these communication methods did not incorporate the inclusion of video games for those who do not play them, but what if they had? If major video game companies had offered one of their online games for free or at a reduced cost to the general public during this time (or even now post

pandemic) as a way for people to continue to hangout through virtual worlds, what would the research look like for the pros and cons of this?

As a clinician-in-training, my purpose is not to reinvent the wheel when it comes to interventions to use with clients, but rather how to use interventions in a way that will allow for safety, healing, and possibly transformation for the client. Expressive art therapy has no limitations when it comes to creativity and this mindset can be applied to certain video games as well. Future research could explore the benefit of combining interventions with playing games. For example, life simulators where one creates their playable character from scratch and explores the game as that character, such as the *Sims* series, which might be a great intervention for individuals living with eating disorders or even for family and marriage counseling. The art therapy intervention of house-tree-person could be modified for use in video games such as the Nintendo 3DS game *Drawn To Life*, to explore inner conflicts. Studies on exploring self-expression through movement with titles such as *Yoga Master* and the *Just Dance* series may prove useful for mindfulness and emotional regulation. The application of video games in a therapeutic context is sorely limited and no training or workshops are being offered currently. If more research were put into this area of study, it would allow for more practitioners the opportunity to learn about and practice this work. Video games do not have to remain solely a form of entertainment and it is my hope that more individuals can experience the benefits that come from playing them.

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Appendix A

Figure 4

Impacts of Harassment

Impacts of Harassment. The impact of harassment in online games goes beyond the game environments, and can have a significant impact on players' lives.

Source: ADL/Newzoo 2019 Online Game Survey

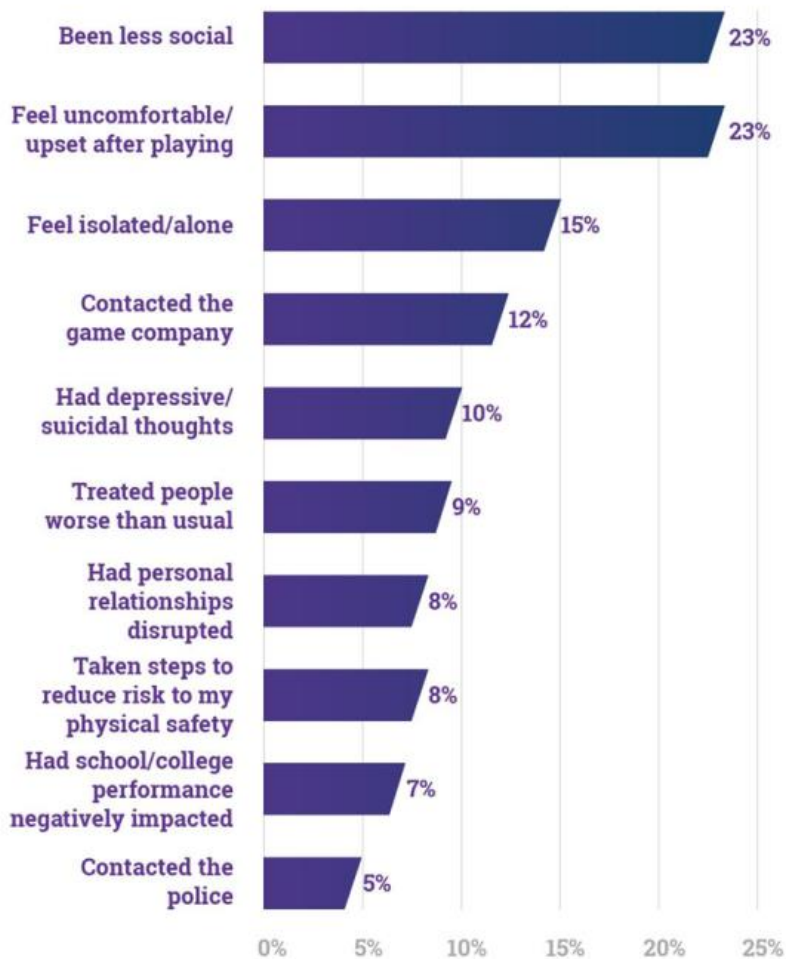
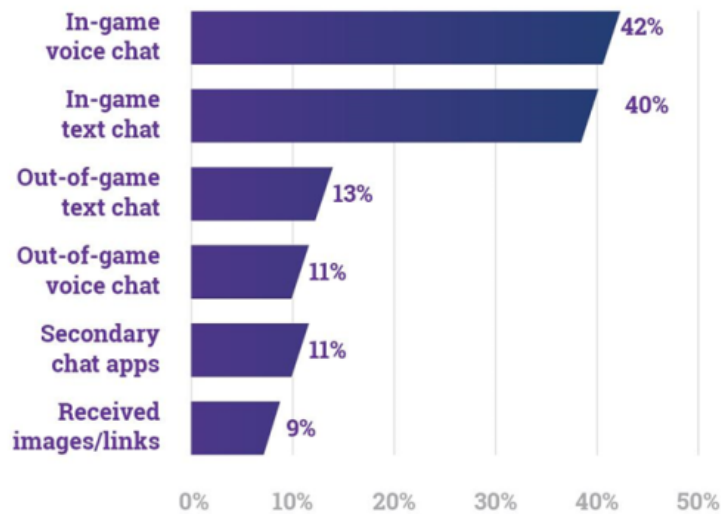


Figure 5*Harassment by Communication Mode*

Harassment by Communication Mode. The study investigated the communication modes where players experience harassment within online games.

Source: ADL/Newzoo 2019 Online Game Survey





Screenshot from the video game *Animal Crossing: New Horizons*, captured by the author (2020).

Context: when players begin a new game file, their island's trees will randomly grow 1 fruit (apples, oranges, cherries, peaches, or pears). In order to get the other fruits, the player has to visit another player's island and take the fruit from their trees back to their own island/town.

"You took all the apples" refers to one of the players taking all the apples on the island, leaving none behind for the other two players visiting. While not shown, on the same day this screenshot was captured, one of the players' birthdays was celebrated as well.

Personal Art & Journal Entries

December 2022-May 2023

Journal Entry 1

Bound and Confined, December 18th, 2022

So many games, so many options, so much time available to play. But I can't play what I want because I feel broken and confined by this injury. Instead I find myself spectating others playing video games, enjoying what I wish I could...I know my injury is only temporary, but I can't help but feel empathy for those who sit with permanent illnesses or injury, and what their experiences with being unable to fully enjoy video games is like. Something that was once enjoyable and leisurely now feels like a chore, as I navigate the lack of accessibility in some of my favorite games.



Journal Entry 2

Documenting the Process, January 5th, 2023

I attempted to play *Pokémon Violet* today, as I received it for Christmas but have been too depressed to try it out. Holding the Nintendo Switch in portable mode is too difficult for me in general and I hate using the joy cons because of the drift issue. I always play with the pro controller as it is easier, even more so now with my injury. I've been unable to play some of my other games that require quicker mobility and decision-making skills, like *Overwatch 2* and *The Legend of Zelda: Breathe of the Wild*. Luckily with *Pokémon Violet* it is slower-paced and I find joy in being able to take a step back from the main story to have picnics with my Pokémon team and the sandwich-making mini game. It's a gentle reminder to practice self-care in my own life by spending time with those I love instead of isolating, spending some time outside to avoid depressive thoughts, and to create art in whatever medium feels right (including making sandwiches).



Journal Entry 3

Photo Fun, February 2nd, 2023

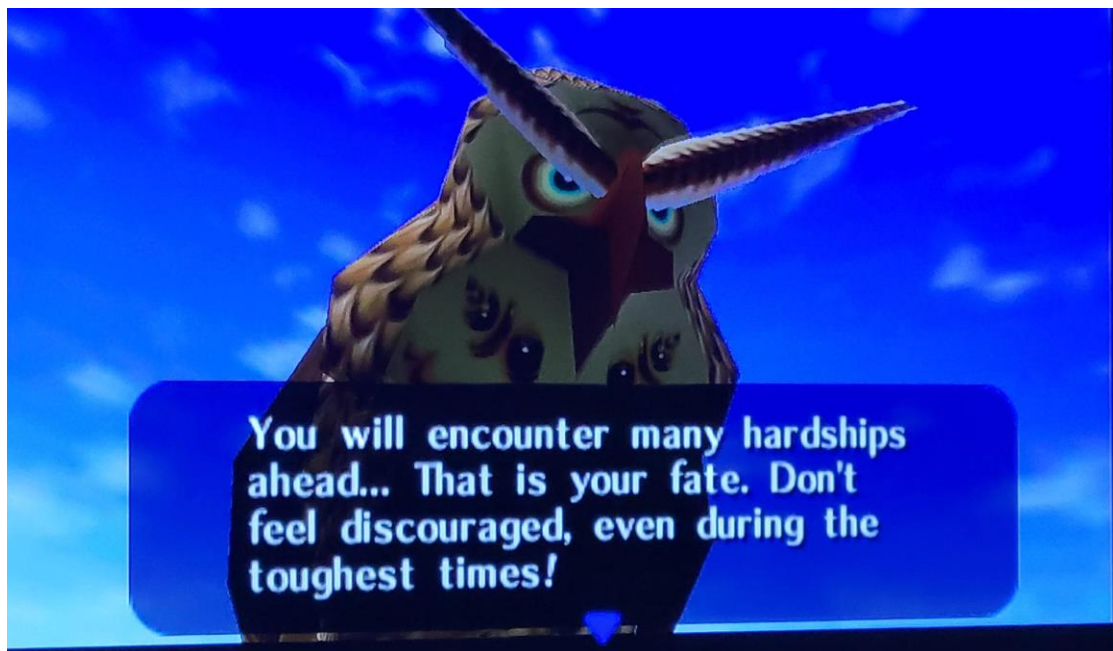
I was in a photographic mood today but the rain is keeping me inside. The mood is kind of low in the house today and even though tomorrow is my birthday, I feel like it isn't. I kind of just don't care. I need something to lift my spirits, something fun and carefree, so I decided to play the *New Pokémon Snap* on my Switch. I forgot how much fun this game is! While I struggled with taking the pictures of Pokémon, I found a lot of joy in editing the photographs. This shot of Flareon was one of my favorites; the fire and cute look on its face made me feel a sense of comfort amongst the gloominess of outside. I had to take a break after a bit of playing because my wrist was starting to throb, so I decided to use the online sharing system to see what other players have been taking pictures of. The creativity of others inspired me to add my photograph to the compendium, in hopes that my photo will bring comfort to others who may need it.



Journal Entry 4

Relatedness, March 14th, 2023

Now that my cast has been removed and I am in a brace that offers more mobility, I have decided to replay some of my favorite games that bring feelings of nostalgia and comfort to me. The first game on the list is *The Legend of Zelda: Ocarina of Time*. Within the first hour of playing, I came across this dialogue with the owl character Kaepora Gaebora. It struck a chord in me with how relatable this message was to my current lived experience: facing the hardship of a car accident damaging my dominant hand and wrist, graduation being postponed due to injuries, my mental health dwindling, my parents going through divorce...and yet here I am today, still moving forward and pushing through because I'm a fighter, not a quitter. I wanted to give up but chose not to. And now I sit here bawling my eyes out while this wise owl reminds me that things can happen unexpectedly, but it's important to pick up the sword and continue to fight on, rather than give up and quit the game.



Journal Entry 5

Exploring the Darkest Depths, May 1st, 2023

I find myself hiding, avoiding the world around me, distancing myself from others so that painful feelings have no door to creep in. When feelings have to be faced, I put on my mask and pretend that I am okay. I smile and laugh so that others do not need to worry, and to lie to myself that I am doing okay. But those painful feelings have found a way around the door and are seeping in through the smallest of crevices. I thought I was doing better, but reality hurts. And the reality is that these salty tears carry a heavy burden. I play the games of my childhood to escape the burdens of adulthood, and yet...the games remind me that I can not play them in the same way my younger self once did. I have to stay strong for her though, the younger me. Because even she cried salty tears some days, and if she could get through it, then so can I.



THESIS APPROVAL FORM

Lesley University

Graduate School of Arts & Social Sciences

Expressive Therapies Division

Master of Arts in Clinical Mental Health Counseling: Expressive Arts Therapy

Student's Name: Tiffany Golando

Type of Project: Thesis

Title: Nerf This! Navigating the Accessibility and Inclusivity of Video Games

Through Expressive Arts Therapies: A Literature Review

Date of Graduation: May 18, 2024

In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

Thesis Advisor: E Kellogg, PhD