

Motivation and Cognitive-Behavioral Factors in Problematic Online Gaming

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A portion of the US population is choosing online games as a form of recreation and, consequently, is developing unhealthy preoccupations. The most notable form of Internet addiction for the past 20 years has been MMORPG with adults between 20 and 40 years old identified as high risk of developing problematic online gaming behaviors. Problematic online gaming behaviors and the resultant functional impairment of daily living that adults experience from playing MMORPGs was the problem addressed in this study, while the purpose was to provide further insight into those behaviors that adults experience from playing MMORPGs. This study used descriptive, pre-transcendental, psychological phenomenological methods and associated five-step phenomenological psychological data analysis and was predicated on the integration of the Online Gameplay Motivations Theory and the Cognitive-Behavioral Model of Pathological Internet Use. Seven adult participants who have played numerous MMORPGs over a period of no less than 5 years and as recently as 2 months were recruited. Interviews provided raw data, the analysis produced 26 themes and subthemes, which answered four research questions. The results indicated that adult MMORPG players who experience problematic online gaming behaviors experience both benefits (e.g., access to virtual-relationships, increased attention and focus, increased technology competency) and detriments (e.g., maladaptive cognitions, behavioral symptoms) from this online gameplay.

Keywords: motivation; problematic online gaming; MMO; MMORPG; phenomenology; gamers; online gameplay

1 Introduction

Computer technology and access to the Internet are now commonplace in both worksites and homes. Both technologies are integral for the economic, political, and social functioning of modern societies (Curran et al., 2016). Computer technology has been commercially accessible to the US general public since 1983, while access to the Internet is more recent as of 1990 (Curran et al., 2016; Wodjao, 2007). Over the past

40 years, there has been an exponential increase of computers in US households growing from 8% in the 1980s, to 37% in the 1990s, to 69% in the 2000s, and to 83% in the 2010s (International Telecommunication Union [ITU], 2018; Wodjao, 2007). Internet access in households has seen a similar increase, over the past 25 years, with 18% in 1997, to 62% in just 6 years, and to 81% in 2018 (Day et al., 2005; ITU, 2018). Internet cafés have become an alternative for those without access to the Internet at home (Wong & Lam, 2016). Both access to computers and the Internet at home has led to higher daily use of each of these technologies resulting in people spending long periods of time in front of a computer screen.

The growth of the Internet is unprecedented with now more than 30% of the world's population with access, which translates to over 2 billion Internet users (Curran et al., 2016). Youth and emerging adults between 15 and 24 years old access the Internet at higher proportions at 94.3% in developed countries and 67.3% in developing countries (ITU, 2017). Survey results released from the Pew Research Center reveals American adults and youth are choosing computer games as a form of recreation at rates between 48% and 77% (Duggan, 2015). Furthermore, adult males (e.g., 50%) and females (e.g., 48%) are choosing online gaming at similar rates (Duggan, 2015). A portion of the population, as a consequence, develops unhealthy preoccupations with activities on the Internet.

The most notable form of Internet addiction for the past 20 years has been MMORPGs with adults between 20 and 40 years old identified as high risk of developing problematic online gaming behaviors (Ferguson et al., 2011; King et al., 2019; Kuss, 2017). MMORPG genre differ from linear gameplay (Braithwaite, 2018; Roy & Ferguson, 2016) in the following ways: (a) persistent-state open virtual-worlds, (b) no conclusion to the game, (c) routine daily progress tasks, (d) routine updated game content and game balance, (e) player-built virtual-communities, and (f) sustained collaboration. Recent scientific reports implicate online games, as one of these aspects of the Internet in which technology is used excessively and unhealthily; therein, players of online games are developing problematic online gaming behaviors (see Griffiths et al., 2016a; Kardefelt-Winther, 2014; Saunders et al., 2017). Studies indicate, contrary to stereotypes, adults rather than youth are more likely to engage in online gameplay (Bergstrom et al., 2016; Molesworth & Watkins, 2016). Contrariwise, the available research literature focuses on youth (Anderson et al., 2017; Stavropoulos et al., 2017). Given a meta-analysis of 33 published studies, adults between 20 and 40 years old in the US are identified as a high-risk group at rates of 3.1% (Ferguson et al., 2011). Nationally representative samples, from both Eastern and Western countries, indicate prevalence rates ranges between 2.4% to 45% (Pontes et al., 2016; Rehbein et al., 2015, 2016; Rucker et al., 2015; Wittek et al., 2016). These prevalence rates portend problematic online gaming behaviors as a global crisis.

1.1 Statement of the Problem

The problem addressed by this study is the problematic online gaming behaviors that adults experience from playing MMORPGs (King et al., 2016; Lopez-Fernandez, 2018; O'Connor et al., 2016). Problematic online gaming behaviors

frequently includes sleeping, eating, bathing, and toileting deprivation (Lopez-Fernandez, 2018). Decreased employment performance, employment loss, and long-term unemployment are often experienced (Király et al., 2017; Lee et al., 2017). This preoccupation extends beyond gameplay with adults abandoning social and recreational activities to spend additional time on MMORPG-related online gaming forums and private social networking groups (King et al., 2016; Kuss, 2017; Lopez-Fernandez, 2018). Deceiving partners, spouses, family, and friends to continue engaging directly or indirectly with MMORPGs is commonly experienced (Lopez-Fernandez, 2018).

Overall, the consequence of problematic online gaming behaviors is functional impairment of daily living (Kuss, 2017). Adults have jeopardized their education, employment, relationships, psychological wellbeing, and physical health from consequential impairments (Király et al., 2017; Lee et al., 2017). Examples of resulting impairments include (a) poor academic and vocational performance; (b) real-world familial and social relationship withdrawal; (c) behavioral dysregulation and social dysfunction; (d) depression and anxiety symptoms; (e) feelings of loneliness, irritability, or sadness; (f) poor sleep, dietary, hygiene, and toileting routines; and, (g) overall, poor physical health and obesity (Baturay & Toker, 2019; Faulkner et al., 2015; Kaptis et al., 2016; King et al., 2016; Lopez-Fernandez, 2018; Martončík & Lokša, 2016). In the most extreme cases, crimes and death have occurred (Denham & Spokes, 2019; Rowlands et al., 2016; Spragg, 2017). If this problem is not addressed, problematic online gaming behaviors will continue to impair daily living for adult MMORPG players (King et al., 2016; Lopez-Fernandez, 2018; O'Connor et al., 2016).

Adult MMORPG players' perceptions of the progression and prevention of problematic online gaming behaviors are unknown (Billieux et al., 2015; Lopez-Fernandez, 2018). Various methods to obtain quantitative and qualitative data exist; however, the majority of studies have used quantitative methodologies and, as such, there is a paucity of qualitative studies (with a few recent exceptions; King et al., 2016; Lopez-Fernandez, 2018; O'Connor et al., 2016). Of the limited qualitative studies on this topic none to date attempted to describe and explicate the complexity of the phenomenon of problematic online gaming behaviors through psychological phenomenological methods or collectively investigated motivation to play MMORPGs, maladaptive cognitions, preexisting psychopathology, life stressors, situational cues, and exposure to technology involved with problematic online gaming behaviors. Therefore, this study aimed to fill the gaps in the qualitative literature base on this topic.

1.2 Principal Aim and Theoretical Framework

The principal aim of this study was to understand the lived experiences of adult MMORPG players that exhibit problematic online gaming behaviors. Investigation of these behaviors directly from this population has the potential to enhance the understanding of problematic online gaming behaviors, high engagement, and Internet gaming disorder. The following research questions were used to guide the gathering of data for this study: (a) What are adult MMORPG players' lived experiences of non-problematic online gaming? (b) What are adult MMORPG players' lived experiences of problematic online gaming behaviors? (c) What are adult MMORPG players' lived experiences of attempts to prevent problematic online gaming behaviors? (d) What are adult MMORPG players' perspectives of how problematic online gaming behaviors might be prevented?

The theoretical framework of this study was predicated on the integration of the Online Gameplay Motivations Theory (Yee, 2006) and the Cognitive-Behavioral Model of Pathological Internet Use (Davis, 2001). These two models were the most effective theoretical inquiries for this research and was triangulated and qualitatively applied to the research findings. The emergence of themes was made possible through the framing of two theories that focus on separate aspects of problematic online gaming behaviors. With just the theoretical lens of Davis' (2001) model, there would have been a focus on problematic online gaming behaviors purely from a psychopathological standpoint. Yee's (2006) model provided a counterbalance to a purely psychopathological approach allowing for the emergence of themes of motivational factors behind behaviors. Therefore, theory triangulation best aided in the task of describing and explicating the complexity of the phenomenon of problematic online gaming behaviors (Turner & Turner, 2009). Additionally, theory triangulation addressed the current debate of potential erroneous pathologizing of normal behaviors and normal aspects of contemporary culture and society (Aarseth et al., 2017; Deleuze et al., 2017, 2018; Dullur & Starcevic, 2017; Griffiths et al., 2016b; Kuss et al., 2017a, 2017b, 2017c; Lee et al., 2016, 2017; Petry et al., 2016; Przybylski, 2016; Sanders & Williams, 2016; Saunders et al., 2017).

2 Materials and Methods

Permission to conduct this study was obtained from Northcentral University's Institutional Review Board in 2020. Field-testers were e-mailed an expert package for review which included the consent letter and field-test form.

2.1 Design

Descriptive, pre-transcendental, psychological phenomenological methods were used (Giorgi et al., 2017). The qualitative, descriptive, pre-transcendental, psychological phenomenological methods addressed the problem because there is a scintilla of qualitative evidence about the lived experiences of adult MMORPG players who experience problematic online gaming behaviors in the research

literature. This is especially true in regards to the motivation, maladaptive cognitions, life stressors, exposure to technology, and situations cues that contribute to problematic online gaming behaviors of adult MMORPG players. Giorgi and colleagues (2017) developed strictly descriptive phenomenological methods for psychological research rooted in non-interpretive Husserlian philosophical phenomenology. Giorgi posits that lived experiences can be described by a thorough phenomenological psychological analysis of data within the perspective of the phenomenological psychological reduction (Giorgi et al., 2017). While philosophical transcendental reduction is interested a completely purified lived experience of consciousness, phenomenological psychological reduction is interested in actual human consciousness (Giorgi et al., 2017). This particular methodology allowed for a descriptive account of adult MMORPG players' lived experiences unadulterated, complete, and absolute without interpretation as it allowed for the distillation of lived experience into the psychological structure of the experience (Giorgi et al., 2017). Moreover, the qualitative, descriptive, pre-transcendental, psychological phenomenological methods allowed for adult MMORPG players' lived experiences to be reduced to psychological meaning rather than philosophical meaning units. This allowed for the representation of the psychological significance of the meaning of the idea and the preservation of the psychological integrity of the idea being expressed without distorting or missing the psychological significance of the lived experience.

2.2 Participants and Procedures

The target population for this research study was adult MMORPG players between the ages of 18 and 40 years old living in the US given that 3.1% of adults in this age range were identified as a high-risk group for developing problematic online gaming behaviors (Ferguson et al., 2011). Participants were required to be native English speakers, writers, and located in the United States to ensure similar cultural and historical context of their lived experiences. In terms of nationality, adult MMORPG players were limited to those living in the United States. The *a priori* inclusion criteria required participants to report (a) having played MMORPGs over a period of no less than 5 years, (b) having experienced or currently experiencing problematic online gaming behaviors, and (c) investing a minimum of 20 hours a week in MMORPG gameplay and/or non-gameplay associated MMORPG activities. The length of time playing MMORPGs in general was determined to ensure participants could provide depth of experience instead of short-term encounters with MMORPGs. MMORPG players often commit to years of long-term gameplay in a particular MMORPG game title as they build lasting, durable, and meaningful social relationships by means of virtual-communities (Braithwaite, 2018; Cărățărescu-Petrică, 2015).

Recruitment entailed posting messages to MMORPG-related online gaming forums and social media platforms. Only open to the public or open, moderated forums was used for recruitment. Snowball sampling and *a priori*, criteria-based sampling strategies were additionally used. Qualitative semi-structured interviews guided by an interview guide were conducted through Skype, a means of electronic communication capable of video conferencing, audio-only conferencing, and instant messaging.

Skype has growing support as an equivalent or superior mode of conducting qualitative interviews compared to in-person interviews (Johnson et al., 2019; Sipes et al., 2019). Research has demonstrated Skype to have clear advantages to other modes such as gathering word-dense transcripts, producing conversation turns, and field notes from research participants (Johnson et al., 2019; Sipes et al., 2019). Moreover, there are situations where remote interviews are necessary or advantageous in reaching populations that are geographically dispersed or cost prohibitive to access (Johnson et al., 2019; Sipes et al., 2019). MMORPGs aim to provide unrestricted geographical and temporal cooperative and competitive gameplay; thus, Skype had clear advantages in conducting remote interviews for this population compared to face-to-face interviews. It was more likely that this sample population of gamers will understand applications similar to the function of Skype and, thus, should be tech savvy sufficiently to use Skype as a mode of interview.

With COVID-19 pandemic, massive unemployment, extreme climate change-related weather events, recent social justice protests occurring simultaneously, both globally and nationally, an increase in access to mental health services was expected for emotionally and psychologically distressed people coping with suicidal ideation. Referrals were made available to free, confidential, 24-hours-a-day, 7-days-a-week, 365-day-a-year mental health services national providers for study participants who exhibited or self-reported current emotional or psychological distress. Referrals to the National Suicide Prevention Lifeline and Substance Abuse and Mental Health Services Administration (SAMHSA) National Helpline, both services were available in English, Spanish, and other languages and appropriate referrals were offered. No participant requested or was appropriate for referral.

2.3 Instrument and Analytical Strategy

The two main instruments for this study were an interview guide and the researcher-as-instrument. The same interview protocol was used for each participant to provide basic and uniform structure. Process and procedural consistency, comparability, reliability, and enhanced analysis was established through the use of an interview guide. The interview guide consisted of 13 open-ended, expansive questions which allowed each participant flexibility and latitude in their response in an effort to collect realistic, accurate descriptive accounts of adults' lived experiences of problematic online gaming behaviors from playing MMORPGs. Questions in the interview guide was designed with Internet gaming disorder criteria in mind (APA, 2013, Section III, p. 2). The interview guide contained space for notetaking and reflection. The interview guide was created and field-tested by three experts in technology-based addiction to (a) determine alignment between the research questions and interview questions, (b) examine the effectiveness and understandability of each interview question, while avoiding ambiguity, (c) addressed question ordering to avoid question- and response-order biases, and (d) determine length of the interview to avoid technology burnout or fatigue, while allowing for time for the participant to produce rich descriptions of the lived experience of problematic online gaming behaviors (Brinkmann & Kvale, 2015). Field experts with a minimum of three years

of either research or counseling experience treating technology-based addiction were selected using purposive and convenience sampling.

As the researcher was an instrument of the study and therefore was subjected to bias, questions were open-ended and semi-structured in an effort to capture the desired research information. Open-ended, semi-structured questions allowed for flexibility and latitude enough for each participant to freely move in different directions and express lived experiences containing feelings and perceptions through self-reflection, stories, and anecdotes (Brinkmann & Kvale, 2015). The researcher has over 18 years of counseling experience exceeding 19,000 hours of direct client hours; moreover, the researcher has played MMORPGs since 1996 as an EverQuest beta-tester and, overall, played MMORPGs for nearly two decades off-and-on. Research bias is a well-known phenomenon, and the researcher made every effort to minimize his own bias by allowing participants to freely express their own opinions and lived experiences without interpretation or judgement. The researcher committed to phenomenological bracketing with a disclosure of knowledge, experiences, and gameplay history related to the research topic.

Data gathered from transcription of the interview was collected and analyzed manually and electronically with NVivo 12. Manual data analysis was the primary method, while electronic data analysis was the secondary method. Trustworthiness of expressed lived experiences, feelings, perspectives, and opinions were strengthened by comparing manual and computer-assisted results (Niedbalski & Ślęzak, 2017). Giorgi and colleagues' (2017) five-step phenomenological psychological data analysis was employed for manual data analysis. NVivo 12 software was used secondarily during analysis and aided in the storage and organization of data in an effort to assist the researcher. Furthermore, NVivo 12 software was used to identify any themes that might be overlooked by the researcher.

3 Results

The purposeful sample consisted of seven adult MMORPG players in the US who had experience with MMORPG-related problematic online gaming behaviors. Participants were interviewed for this qualitative, descriptive, pre-transcendental, psychological phenomenological study (Giorgi et al., 2017). The data were analyzed using the five-step phenomenological psychological data analysis (Giorgi et al., 2017). Forty-seven pages of interview transcripts were collected in total. Interviews were the only source of data collection and were accomplished through open-ended semi-structured Skype interviews.

3.1 Participant Demographics

The participants' demographics with assigned pseudonyms are outlined in Table 1.

Table 1
Demographics of Participants

Pseudonym	Age	Sex	Marital Status	Years of MMORPG Gameplay
Thomas	40	Male	Single	17
William	24	Male	Married	8
Henry	26	Male	Single	19
Archie	29	Male	Single	23
Noah	37	Male	Married	20
Jacob	30	Male	Married	16
Charlie	40	Male	Married	22

Participants consisted of all male MMORPG players between the ages of 24 and 40 years old. The average age of participants was 32.28 years old. Four participants endorsed being married (57.1%), while three endorsed being single (42.9%). Years of gameplay related to MMORPG was reported ranging from 8 to 23 years with an average of 17.85 years. Combined years of MMORPG-related gameplay totaled 125 years of experience reported by seven participants. All participants were located in the US at the time of the interview. Ethnicity, employment, and education obtainment were not intentionally nor consistently collected from or reported by participants.

3.2 Themes Related to Lived Experience of Non-Problematic Online Gaming

Three themes emerged from the data analysis of the research question: What are adult MMORPG players' lived experiences of non-problematic online gaming? Pseudonym of participant, their produced quote, and frequency of thematic agreement (e.g., 50 references total with selected quotes presented) are presented for each corresponding theme in Table 2.

Table 2
Themes Related to Lived Experience of Non-Problematic Online Gaming

Theme	Frequency of Agreement	Select Quotes
Improved access to and maintenance of relationships	$\Sigma = 38$	<p>"If I told friends in-game I would meet them for something I saw it the same as in real-life and vice versa." (Thomas)</p> <p>"It also gives something to do at night where many in the community I live in partake in drugs and alcohol to excess." (Thomas)</p> <p>"I don't have people that just pop in for a visit</p>

where I live, so less chances on getting distracted and the few that might want to come by are also gamers so they understand and are more interested in what I'm playing.” (Thomas)

“I no longer speak to my eldest brother anymore, but when I did, we would often play MMORPGs together.” (Henry)

“Even further than siblings, even my mother enjoys playing them super casually. She has played a lot of World of Warcraft, Guild Wars 2, and Star Wars: The Old Republic, so she and my siblings and I would sometimes play those together. So, to sum that whole thing up, MMORPGs have helped my family bond.” (Henry)

“There has always been a level of real-life socializing in my gaming habits, with friends and family who enjoy them as well.” (Henry)

“I believe it’s a good and cheap source of entertainment when done in moderation, and a great way to meet people.” (Archie)

“I’ve made and met friends from other countries and my own in real-life through online gaming.” (Archie)

“My wife plays MMORPGs with me and she once worked for the parent company of an MMORPG. We would go to national conventions and events, so there is no need to hide it from her or anyone for that fact.” (Noah)

“Online gaming is an opportunity to maintain connections with friends, especially those who have moved away.” (Jacob)

“It also improves my teamwork.” (Jacob)

“With 24/7, global MMORPGs, there was always someone on. I would have friends on the east coast, west coast, and Australia that I’d play with and gain exp and build on our friendships. In real-life people sleep, have other obligations, or feel like I come on too strong and intense during the beginning of the relationship.” (Charlie)

Increased attention and focus $\Sigma = 6$

“I have used games or working out to focus on something else for a short period or to calm down and be able to decide if it was something that really mattered or more time to think about it.” (Thomas)

“If I’m grinding by myself, I can think about the thing and different ways to deal with the issue or if

Increased technology competency	Σ = 6	<hr/> <p>something that can let it go as it isn't worth it." (Thomas)</p> <p>"I still have increased my knowledge by reading articles or manuals on work stuff while gaming or listening to videos at the same time." (Thomas)</p> <p>"Online games give easy access to a flow state compared to other activities, which I think is beneficial." (Jacob)</p> <p>"It's like my body will do whatever it can to just start the process, and once it's started, I can be there for hours." (Jacob)</p> <hr/> <p>"Some hobbies that I have are all computerized and have expanded my knowledge on automating them and only have to fix issues from time to time." (Thomas)</p> <p>"It also improves my teamwork, computer skills, and ability to think quickly under pressure." (Jacob)</p> <p>"I work in the tech field and it is common for co-workers to play games to. I have had interviews where the topic comes up. I think I might have gotten certain jobs because my co-workers can relate to gaming." (Noah)</p> <p>"Something else I enjoy about MMORPGs is that I personally really enjoy teaching in general, and while it's not a career path I was to pursue (seems way too stressful), MMORPGs can be really good as a way for me to get that teaching itch scratched. Since it's my favorite genre, I tend to play them a lot as well as do a fair amount of research and practice, so I usually have a good grasp on most things about them." (Henry)</p> <p>"MMORPGs are kind of complicated by design, since they usually involve an entire fantasy world, so I enjoy helping people learn the ropes when they might get a bit overwhelmed." (Henry)</p> <p>"And finally, it can sometimes be a good confidence booster. MMORPGs are something I do put a lot of time into, so I tend to be really good at them, and that just feels good, especially when other people notice." (Henry)</p> <hr/>
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3.3 Themes Related to Lived Experience of Problematic Online Gaming Behaviors

Four themes and 13 subthemes emerged from the data analysis of the research question: What are adult MMORPG players' lived experiences of problematic online gaming behaviors? Pseudonym of participant, their produced quote, and frequency of thematic agreement (e.g., 67 references total with selected quotes presented) are presented for each corresponding theme in Table 3.

Table 3
Themes Related to Lived Experience of Problematic Online Gaming Behaviors

Theme	Frequency of Agreement	Subtheme	Select Quotes
Preexisting psychopathology	$\Sigma = 9$	Anxiety	<p>"I'm very shy in real-life. I've had therapists who have said I have social anxiety, going up to other people and talking to them has always been difficult for me. I think video games have always been my default, so to speak. In other words because I think I explained that poorly, since I know I always have video games available as a means to have fun or pass time, I think there's always been less of a pressure for me to actually go out and talk to other people." (Henry)</p> <p>"For me personally, I think my entrenchment, so to speak, of my video game habits comes almost entirely from social anxiety. I actually really enjoy socializing and hanging out with other people, but actually being the person to go up to others and create those opportunities for myself has always felt like a huge wall for me, and video games are something I could always do by myself. If given the opportunity to hang out with other people</p>

			<p>instead of stay home and play games I will do that” (Henry)</p> <p>“Online gaming increases my stress levels, both during and when I’m away.” (Jacob)</p> <p>“Frustration, apathy towards life, anxiousness, hopelessness towards getting better, and overwhelmed with the tasks of everyday life.” (Jacob)</p>
		Depression	<p>“I feel unsatisfied pursuing goals in real-life.” (Jacob)</p> <p>“Frustration, apathy towards life, anxiousness, hopelessness towards getting better, and overwhelmed with the tasks of everyday life.” (Jacob)</p> <p>“I remember being depressed and feeling like I was just getting through life without any real purpose.” (Jacob)</p>
		Attention-deficit hyperactivity disorder	<p>“I think it still affects my ability to study though, I have a very short attention span and get distracted easily. Something that really only seems to stop when I’m hooked on a game.” (Archie)</p> <p>“I am always distracted and have trouble focusing outside of the game.” (Jacob)</p>
Maladaptive cognitions	$\Sigma = 8$	Anxious depression	<p>“Frustration, apathy towards life, anxiousness, hopelessness towards getting better, and overwhelmed with the tasks of everyday life.” (Jacob)</p>

			<p>“I’ve quit online games 6 months ago and I still have impulsive cravings. My heart rate increases, and I become distracted. I miss being able to achieve a state of flow. Life feels boring.” (Jacob)</p> <p>“If I’m the only one I know playing a game and never have met people in real-life I might not play as much.” (Thomas)</p>
		Loneliness	<p>“I might not get as many invites to social gatherings but at my age more of those are couples things” (Thomas)</p> <p>“As I’ve mentioned I think multiple times now, I personally really enjoy doing non-video game things as well, but most of the things I enjoy require other people, and the other people are always the hurdle I need to get over (as in getting a group of people to hang out with, not the people themselves).” (Henry)</p> <p>“I often consider quitting but I don’t know what else I’d do, especially being home bound because of the Corona Crisis.” (Archie)</p>
Behavioral symptoms	$\Sigma = 44$	Aggression or impulsive aggression	<p>“In game I believe my behavior is more unpredictable than in real-life, I will fly off the handle faster than I would in real-life, both on chat and voice chat. Yes, I have less self-control when it comes to gaming. I’m more prone to swearing and</p>

cussing with people I know on voice chat, and with random strangers in text chat I'm faster to get angry when they make mistakes. I have less patience with people I don't see face to face basically." (Archie)
"in-game, trolling, and harassment online continue to be an issue for me.

Depends on the game, but I feel I am in a cycle where I cannot stop trolling others. Maybe it was because I feel harassed by other."

(Noah)

"For a few years I have only had access to satellite Internet. This means that often the connection is so unstable that I cannot play even remotely competitively. I will still play even though I am frustrated and angry the entire time. Sometimes there would be no connection. If I had planned to play that night, and there was no connection, I would sit in front of the computer refreshing it every few minutes in the hope that it would come back on (even if the connection was as terrible as described above)." (Jacob)

"It also sucked when co-workers would come to talk to me for way too long, while I had the game running. I would get really agitated and often rude at co-workers, so they would leave me alone, so I could

	continue to game.” (Charlie)
Deception	<p>“I have worked from home for years now. I would try to limit my gaming in the evening when my wife was home. This means that I was primarily gaming instead of working or studying.” (Jacob)</p> <p>“A recent example is when one of my dogs got sick. There was a spray medication that I had to use that was not easy. It’s important to note that MMORPGs will often reward you for half-hearted efforts. I believe that I had, at that point, gotten so used to getting by with half-hearted efforts that I did the same with my dog’s medication application. He got worse because of it, and we were told that we would have to put him on a harsher systemic medication that he might not make it through at his age. The vet phrased it as though the other stuff wasn’t working, but I knew it was because I had only given quick applications without much effort and then gone back to gaming. The failures I’ve had that have been caused by gaming are the ones that have made me hate myself the most. The dog story ended okay. I recommitted, took progress photos, and we were able to avoid the harsher medication.” (Jacob)</p>

“I have played games at the office during work hours, my monitor isn't something that is viewable to someone as soon as they come in and I have my sound off. I tend to do things that doesn't matter if I alt-tab the screen and take care of some issue for 10 to 15 minutes. From time to time it doesn't work out and will die in-game but employees almost never have any idea.” (Thomas)
“Hah, I definitely used to when I was younger because I didn't want to seem nerdy at school. But these days I don't hide it at all. I feel gaming especially amongst younger people is far more accepted than it was when I was 12 for example. Pretty much everyone I know knows that most of my time is spent on gaming, though I think a lot of them wouldn't know what a MMO was specifically. But I'd hide it to keep myself from being bullied anymore in high school.” (Archie)

Displacement

“I give up very easily in my other interests and hobbies, and often times things like daily quests will compel me to skip doing something so I can get my MMO chores done for the day.” (Archie)
“There's always a slight fear of falling behind in the game I actively play at the time, so that takes

precedent over other things like playing piano, guitar, or studying.” (Archie)

“When I was younger, I'd often pass on seeing my friends in favor of gaming, luckily, I don't do that anymore.” (Archie)

“From 18 to 21 I worked a part-time job at a grocery store, I hated the job and regularly called in sick just to play more World of Warcraft.” (Archie)

“I'd opt out of going to dinner with family or hanging out with the few real-life friends I had.” (William)

“When I was younger, I almost lost a job because the politics and immersion of the MMO I was playing was more important to me than anything else in my life.” (William)

“When I got a really well-paying job I would play during work hours and just switch my screen to make it look like I was working on something else. That increased my anxiety because we worked in cubicles and anyone could come by at any moment. I would play with the sound off, which gave me anxiety because I use the audio cues to make sure I didn't die. It also sucked when co-workers would come to talk to me for way too long, while I had the game running. I would get really agitated and often rude at co-workers, so they would

	leave me alone, so I could continue to game.” (Charlie)
Escape/Mood modification	<p>“From my isolated perspective gaming serves two purposes, fun and an escape, and if a child escapes into gaming rather than finding emotional support elsewhere it can have immense consequences on their life.” (Archie)</p> <p>“If I’m at that point, however, and something happens in real-life, my usage spikes. It becomes an escape, and I justify it by saying that I just want to be happy for a bit. The longer that goes on, the greater the negative consequences. Quitting then becomes not only the desire to stop gaming, but also the avoidance of dealing with difficult challenges at a handicap. Not only a mental handicap because of how gaming affects my mind, but also a handicap in the sense that for weeks I will be behind, even if I am working and trying harder than somebody who is able to more steadily work towards their goals.” (Jacob)</p> <p>“MMORPGs take you out of those negative real-life moments. It’s been a common trend for me that when my real-life gets harder, I will turn to games. It acts as a negative feedback loop because the time and energy I put into</p>

	<p>games makes it more difficult to deal with those real-life problems. The burden was often taken on by my wife unknowingly, because I would hide how much time I spent gaming.” (Jacob)</p>
<p>Intra- and interpersonal conflict</p>	<p>“I have been with my wife for 12 years, but we steadily grew apart during a couple years that I was playing MMORPGs. I would stop doing things with her. If I did, I would be distracted and immediately rush to the game after we finished. More importantly, the culture of gaming is different than the culture of real-life or other hobbies. I said some things and encouraged some behaviors that hurt her, and we realized that I had become somebody completely different. Our worlds had become very different. I quit the MMORPG and really struggled with it, despite the obvious fact that it was costing me the most important thing in my life.” (Jacob)</p> <p>“My relationship with my parents has never recovered from the time I spent playing MMORPGs when I was in my mid-teens. That was 15 years ago. I almost lost my wife because of online games, and she would have been justified in leaving.” (Jacob)</p>

“I have embarrassed myself in front of my peers presenting my research because of MMORPGs.”
(Jacob)

“It also sucked when co-workers would come to talk to me for way too long, while I had the game running. I would get really agitated and often rude at co-workers, so they would leave me alone, so I could continue to game.”

(Charlie)

“I did lose multiple chances at having sex. I didn’t realize until years later that a few people wanted to have sex with me, but I had such poor social skills and played games so much that I missed their signals or would rush out of work or gatherings to play games.”

(Charlie)

Negative
consequences

“I’m sure that if I spent then same amount of time working on a degree as did gaming it might of helped my career” (Thomas)

“I would not make any real-life friends.” (Charlie)

“I even hurt my lower back, which required surgery given my weakened lower back muscles from laying down and playing games.”

(Charlie)

“I have been with my wife for 12 years but we steadily grew apart during a couple years that I was playing MMORPGs. I would stop doing things with her. If I

did, I would be distracted and immediately rush to the game after we finished. More importantly, the culture of gaming is different than the culture of real-life or other hobbies. I said some things and encouraged some behaviors that hurt her, and we realized that I had become somebody completely different. Our worlds had become very different. I quit the MMORPG and really struggled with it, despite the obvious fact that it was costing me the most important thing in my life.” (Jacob)

“I’ve quit MMORPGs twice. The first was when I was 16. At that point I had been playing 10 to 12 hours per day. I was kicked out of school because I stopped going to school and moved out of my parents’ house.” (Jacob)

“After selling everything else I owned, eating Nutella and instant coffee grounds for food, I had to sell my characters to pay rent.” (Jacob)

“I ended up attempting suicide 6 to 12 months later and on overdose-levels of drugs 1.5 years later.

That’s a separate story but I wanted to show that the MMORPG gaming had a long-term impact. It is difficult to recover from the time spent gaming, especially without the

		mental tools that comes with sobriety.” (Jacob)
	Preoccupation	<p>“Not only a mental handicap because of how gaming affects my mind, but also a handicap in the sense that for weeks I will be behind, even if I am working and trying harder than somebody who is able to more steadily work towards their goals.” (Jacob)</p> <p>“I could not stop thinking about the game and I’d search out of game for gear and quests to make my character the best and most powerful he could be. I am definitely a min-maxer.” (Charlie)</p>
	Tolerance	<p>“I could see the current pandemic as also will cause more to play longer hours if they are in a hunker down local as a way to reduce the odds that one could get sick from it and still interact with others.” (Thomas)</p> <p>“Initially I thought that an hour or so a day would be acceptable. An hour or so a day is not enough time to be competitive in an MMORPG. Usually that is just enough time to pick at the in-game chores. It generally creeps up to 3 to 4 hours per day.” (Jacob)</p>
Virtual-Friendship	$\Sigma = 6$	“For me personally, I think my entrenchment, so to speak, of my video game habits comes almost entirely from social anxiety. I actually really enjoy socializing and

hanging out with other people, but actually being the person to go up to others and create those opportunities for myself has always felt like a huge wall for me, and video games are something I could always do by myself. If given the opportunity to hang out with other people instead of stay home and play games I will do that” (Henry)

“As I've mentioned I think multiple times now, I personally really enjoy doing non-video game things as well, but most of the things I enjoy require other people, and the other people are always the hurdle I need to get over (as in getting a group of people to hang out with, not the people themselves).” (Henry)

“While the negative experiences are plentiful, I can't deny the fact that it's also how I met my ex-girlfriend and best friend.” (Archie)

“I regularly wonder if I'd even have fun anymore if it wasn't for the friends I have made.” (Archie)

“Online gaming is an opportunity to maintain connections with friends, especially those who have moved away.” (Jacob)

3.4 Themes Related to Lived Experience of Attempts to Prevent Problematic Online Gaming Behaviors

Three themes emerged from the data analysis of the research question: What are adult MMORPG players' lived experiences of attempts to prevent problematic online gaming behaviors? Pseudonym of participant, their produced quote, and frequency of thematic (e.g., 12 references total with selected quotes presented) agreement are presented for each corresponding theme in Table 4.

Table 4
Themes Related to Lived Experience of Attempts to Prevent Problematic Online Gaming Behaviors

Theme	Frequency of Agreement	Select Quotes
Boredom with online gameplay	$\Sigma = 4$	<p>"I definitely, hands down, spend most of my free time playing games, but I also get bored of them a lot and spend time doing other things as well." (Henry)</p> <p>"I've taken breaks from certain online games when there wasn't any new content" (Noah)</p> <p>"When you get really high level you usually need a group to get exp. Sometimes I am forced to take breaks, while waiting on others to log on or when you've spent hours waiting to groups. That's when I'll just log off and come back a few hours later." (Charlie)</p> <p>"Raids can be very frustrating, especially if you wipe or you are waiting for a rez. I'll just log off and wait for a guildie to text me when the raid is over and a rezzer logs on. Otherwise, it is boring as 'f' to sit there and see folks roll on no drop gear that you need." (Charlie)</p>
Limited access	$\Sigma = 5$	<p>"When I had a job that literally had me in the middle of California forests with no way to communicate with the outside world for weeks at a time" (William)</p> <p>"I was kicked out of school because I stopped going to school and moved out of my parents' house. After selling everything else I owned, eating Nutella and instant coffee grounds for food, I had to sell my characters to pay rent. That let me quit." (Jacob)</p> <p>"I moved to single-player games. The effects were less so, but still similar and negative enough that I had to quit gaming entirely." (Jacob)</p> <p>"I was invited once on a cruise that I felt like I could not say no to. I stopped gaming for the first couple of days of travel" (Charlie)</p> <p>"I moved to a rural village with really poor Internet and the latency made the game</p>

		unplayable. I would die for reasons linked to the slow connection. I was basically forced to quit.” (Charlie)
Treatment of problematic online gaming behaviors	$\Sigma = 3$	<p>“When I was 21, I realized I needed help and started intense group therapy 4 days a week, 8 hours a day. It taught me to stop skipping out on things in favor of gaming. Therapy was a big part of it, along with the self-realization that I wasn't making any progress in real-life.” (Archie)</p> <p>“Online support groups have been key and removing any ability to game impulsively.” (Jacob)</p> <p>“I called a hotline trying to find help, but they only had one resource to give me. I ended up joining a forum and members there supported me. It gave me a sense of community similar to my gaming friends.” (Charlie)</p>

3.5 Themes Related to MMORPG Adult Gamers’ Opinions of Prevention

Three themes emerged from the data analysis of the research question: What are adult MMORPG players’ perspectives of how problematic online gaming behaviors might be prevented? Pseudonym of participant, their produced quote, and frequency of thematic agreement (e.g., 16 references total with selected quotes presented) are presented for each corresponding theme in Table 5.

Table 5
Themes Related to Lived Experience of Problematic Online Gaming Behaviors

Theme	Frequency of Agreement	Select Quotes
Gaining insight and awareness	$\Sigma = 4$	<p>“I would also think some understanding they have that it might be a problem would also help and why they play so much.” (Thomas)</p> <p>“Education to parents and loved ones on the nature of addiction in the context of MMORPGs, the seriousness of it, and how to deal with it.” (Jacob)</p> <p>“Somehow getting the addict into a mindset where they can clearly see the trend of their real-life and how it lines up with gaming.” (Jacob)</p> <p>“Increased awareness, training, and research: during my gaming times I tried to get counseling twice and both times I was paired with gambling specialists who did not even know what an RPG was.” (Jacob)</p>

Developing support systems	Σ = 4	<p>“If they are playing games to interact with others that doing things with friends IRL or clubs where likeminded individuals could meet up and do things that isn't focused on online gaming.” (Thomas)</p> <p>“if friends and family reach out to people who they might suspect have some addiction to video games, it could help them get out more and away from potentially harmful habits.” (Henry)</p> <p>“Honestly? From my viewpoint it's almost 90% parenting. Parents have to be aware of how much time kids spend on the computer versus studying, spending time with friends, etc.” (Archie)</p> <p>“Education to parents and loved ones on the nature of addiction in the context of MMORPGs, the seriousness of it, and how to deal with it.” (Jacob)</p>
Treatment of underlying psychopathology	Σ = 8	<p>“There will be some that still will need professional help” (Thomas)</p> <p>“helping people with social anxiety might encourage them to go out more, get away from games, and socialize with other people.” (Henry)</p> <p>“If someone’s online gaming is affecting their life negatively, it’s an addiction and should be treated/remedied as an addiction.” (Noah)</p> <p>“About a year of my therapy was 1 on 1 therapy directly focused on gaming addiction. By the end they helped me see that I was using gaming as an escape from real-life issues such as bullying and performance anxiety. That’s when I started other forms of therapy to address the underlying issues.” (Archie)</p> <p>“Online support groups have been key and removing any ability to game impulsively. I’ve noticed an increase in my ability to focus, but a decrease in my average happiness. I’ve also noticed a decrease in the variability of my mood.” (Jacob)</p>

4 Discussion

Evaluation of the findings from seven study participants with lived experience of problematic online gaming behaviors was conducted. These findings were compared against recent, relevant literature on the topic and the theoretical framework of the Online Gameplay Motivations Theory (Yee, 2006) and the Cognitive-Behavioral Model of Pathological Internet Use (Davis, 2001). The emergence of themes was made possible through the framing of two theories that focus on separate aspects of problematic online gaming behaviors. With just the theoretical lens of Davis's (2001) model, there would have been a focus on problematic online gaming behaviors purely from a psychopathological standpoint. Yee's (2006) model provided a counterbalance to a purely psychopathological approach allowing for the emergence of themes of motivational factors behind problematic behaviors.

Participants' answers to the four research questions produced themes. The emergent themes overlapped with the literature base and the integrated theoretical framework employed. The researcher of this study was not surprised at the findings as lived experiences captured by descriptive psychological phenomenology tends to contain both benefits and deficits associated with a phenomenon (Giorgi et al., 2017). However, there were surprises according to existing research found in this study.

The first research question asked: What are adult MMORPG players' lived experiences of non-problematic online gaming? The participant interviews produced three themes for research question one. Those themes were (a) improved access to and maintenance of relationships, (b) increased attention and focus, and (c) increased technology competency. Of the findings for research question one, improved access to and maintenance of relationships was not a surprise according to existing research, while both increased attention and focus and increased technology competency were surprises according to existing research.

The second research question asked: What are adult MMORPG players' lived experiences of problematic online gaming behaviors? The participant interviews produced four themes and 13 subthemes for research question two. The four themes were (a) preexisting psychopathology, (b) maladaptive cognitions, (c) behavioral symptoms, and (d) virtual-friendships. The first theme, preexisting psychopathology included three subthemes: (a) anxiety, (b) depression, and (c) attention-deficit hyperactivity disorder. The second theme, maladaptive cognitions, included two subthemes: (a) anxious depression and (b) loneliness. The third theme, behavioral symptoms, included eight subthemes: (a) aggression or impulsive aggression, (b) deception, (c) displacement, (d) escape/mood modification, (e) intra- and interpersonal conflict, (f) negative consequences, (g) preoccupation, and (h) tolerance. The fourth theme, virtual-friendships, did not include any subthemes. Of the findings for research question two, all findings were not surprising according to existing research.

The third research question asked: What are adult MMORPG players' lived experiences of attempts to prevent problematic online gaming behaviors? The participant interviews produced three themes for research question three. Those themes were (a) boredom with online gameplay, (b) limited access, and (c) treatment of problematic online gaming behaviors. Of the findings for research question three, both limited access and treatment of problematic online gaming behaviors were not

surprising according to existing research, while boredom with online gameplay was a surprise according to existing research.

The fourth research question asked: What are adult MMORPG players' perspectives of how problematic online gaming behaviors might be prevented? The participant interviews produced three themes for research question four. Those themes were (a) gaining insight and awareness, (b) developing support systems, and (c) treatment of underlying psychopathology. Of the findings for research question four, all findings were not surprising according to existing research.

5 Conclusion

The current research findings and subsequential evaluation of the findings presented supported previous research study results encouraging further insight into problematic online gaming behaviors. In addition, the current research findings and evaluation of the findings contributed to the literature base on problematic online gaming behaviors experienced by adult MMORPG players. Two findings, increased attention and focus and increased technology competency, were surprises according to existing research, which indicated two benefits of excessive online gameplay. An additional finding, boredom with online gameplay, was a surprise according to existing research and found as a potential means to prevent problematic online gaming behaviors in adult MMORPG players given direct lived experiences.

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