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Assessment of Gaming Addiction and Perceived Psychological Distress Among Filipino Young Adults During COVID-19 Pandemic

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Abstract: Online game addiction and psychological distress are two continuously developing problems in the Philippines, with Filipinos aged 18 to 24 being the second largest age group to overuse interactive online-related games. This sequential explanatory mixed method study aimed to assess the young adults' gaming addiction and perceived psychological distress during the COVID-19 pandemic and identify the other factors contributing to the respondents' frequent engagement in online interactive games, which served as a basis for a preventive intervention program. The researcher administered the survey questionnaires of the Gaming Addiction Scale and Depression Anxiety Stress Scale-21 to 399 young adults aged 18–24 and a semi-structured interview guide to 20 addicted and non-addicted gamers. Key results showed that a small percentage of the respondents experienced polythetic and serious monothetic addiction to interactive online games. In contrast, half of the respondents manifested mild to moderate symptoms of depression and anxiety during the COVID-19 pandemic. Major findings also found no significant gender differences in the level of online game addiction and psychological distress during the COVID-19 pandemic, and a moderate level of relationship substantiated the association. Further results revealed that the negative compensatory factors were associated with addicted gamers' frequent engagement with online games, whereas non-addicted gamers were associated with positive, beneficial factors. This phenomenon has hardly ever been the focus of in-depth research, and the results of this study can be used to further refine the conceptualization of "internet gaming disorder" as a mental disorder and develop a more comprehensive treatment method.

Keywords: COVID-19 pandemic, game addiction, interactive online games, psychological distress, psychological intervention program.

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Introduction

Playing is a fundamental human drive that begins in childhood, and in today's culture, playing has been shifted from the physical world to the embodied online or virtual world (Wang et al., 2019). The likelihood of misuse or addiction rises as computer and internet use become more prevalent in our daily lives. Since many desktop computer activities have been moved to mobile devices, like smartphones, the use of online games by younger generations has significantly increased. This encourages the heavy use of several gaming apps, which can surely harm players' psychological well-being (Wang et al., 2019). Accordingly, Game Quitters (n.d.-b) showed that there are roughly 2.5 billion online gamers worldwide, including 150 million in the United States and 29.9 million in the Philippines (Labana et al., 2020). Despite receiving less attention from medical or mental health professionals, online gaming is unquestionably a complex topic that predominates in the media. Thus, the mandated lockdown increases society's reliance on online gaming (Wang et al., 2019), suggesting that nearly half of young people in 2021 (i.e., millennials and members of generation Z) were reported to engage in digital media for one to ten hours per day (Puyat et al., 2021). In addition to the demographics of gamers, US statistics showed that most players were between the ages of 18 and 34 (Clement, 2022); coming out, the second were teenagers between the ages of 10 and 20 (Labana et al., 2020). Therefore, it is evident that interactive online games are continually developing and are most popular with the younger population.

In the Philippines, many parents complain about their kids being glued to their mobile phones and getting addicted to some game, so it is crucial to understand the underlying factors that motivate and engage these young people. As a result, the American Psychiatric Association (APA, 2013) decided to include internet gaming disorder (IGD) in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) as a preliminary study requiring further research. This was in light of the increasing evidence of people showing a lack of control and prioritizing games over

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daily activities and other significant life interests. This is in addition to the World Health Organization's recent decision to officially classify "game addiction" (GD) as a mental condition in the 11th edition of their international classifications of diseases (ICD11). Meanwhile, a recent study by Omengan (2021) discovered that stress, anxiety, and depression are rising among young people as they face pressure to perform and be functional amid the pandemic. This demonstrates that most young people already experience high-stress levels related to their responsibilities, which were made worse by the COVID-19 situation. Likewise, many young players use interactive online games to cope with mood swings and negative thoughts (Fernandez et al., 2020), unsatisfied living circumstances (Koban et al., 2020), escape from responsibility and reality (Kem, 2012), and even alleviate stress (Nordby et al., 2019). Given the facts presented, the Philippines is currently hampered by the lack of research in this area. To the researcher's knowledge, the increasing trend of gaming addiction and associated psychological distress has not yet been researched or explored. For this reason, it is crucial to expand studies and improve existing treatment intervention programs for people who exhibit mental health issues in connection with unhealthy gaming behavior.

The researcher observed the growing population of online gaming problems and psychological distress among young adults in the current period. The continued emergence of online games has made them one of the most addicting internet activities to date (Kiryal et al., 2015). Undeniably, there are arising controversies about recognizing behavioral gaming problems. Accordingly, the APA (2013) argues that many people with problematic gaming habits indeed exhibit precipitating symptoms of depression. Likewise, studies by Wang et al. (2019) explained how gamers' addiction affects their psychological well-being leading to depression. However, the lack of extensive research vaguely introduced the association between gaming addiction and depression.

The researcher adopted a mixed-method approach to assess the levels of gaming addiction and psychological distress of young adults during the COVID-19 pandemic. This research also investigates the correlation between the two variables and determines the other factors that contributed to the respondent's involvement in online gaming. Hence, this study was carried out to comprehensively understand the emerging IGD as a mental disorder and develop future evidence-based research and treatment interventions in the mental health field.

Literature Review

Children, adolescents, and adults often play interactive online games, but those between 18 and 24 are more prone to develop gaming addiction (Hull & Smith, 2022). However, most gamers with IGD and gaming addiction were found to be between the ages of 21 and 35, followed by teenagers between the ages of 10 and 20 (Labana et al., 2020). Accordingly, studies by Sayeed et al. (2021) showed that gaming addiction has been connected to maladaptive coping strategies related to one's mental health and is more prevalent in men than women. The self-determination theory (SDT) of Deci and Ryan (2012) served as the foundation for the actual implementation of this study. The SDT provided an empirical motivational framework to understand the underlying factors that motivate and engage young adult gamers through basic psychological needs. The SDT framework explains how the satisfaction or fulfillment of basic psychological needs enhances the user's experience and increases motivation, which for many young adults, may result in addiction. The SDT is better understood through motivational components because it largely explains why autonomous young adults enjoy playing online interactive games when it supports their autonomy, competency, and relatedness (Eng, 2021).

According to this theory, the foundation of young adults' well-being is the satisfaction of their basic psychological needs for competence, autonomy, and relatedness (Deci & Ryan, 2012). When people can meet these psychological needs in their daily lives, they experience greater well-being. Conversely, if these needs are not met, their well-being suffers, fostering conflict and distress, and they are forced to pursue activities elsewhere that fulfill these needs (Deci & Ryan, 2012). On the other hand, a person who finds it challenging to meet these needs in their everyday lives may turn to video games to satisfy these deficient needs. The need for competence, autonomy, and relatedness shapes players' fulfillment and psychological well-being.

Psychological Need for Competency

According to SDT, players feel more competent when they master a game or perform better during in-game settings because they need to satisfy their desire to feel competent. Thus, according to studies, players were much more motivated to test the skills they had developed by repeatedly playing online interactive games (Eng, 2021). Similarly, Haghbin et al. (2013) found that teenagers who showed less interest in their academic studies and poor motivation levels spent more time playing video games. As a result, players with low intellectual capacity are compelled to play more online games (Terry & Malik, 2018).

Psychological Need for Autonomy

Gamers' need for autonomy stems from their desire to be independent and have some control over their behavior. According to recent research, when players feel that they have some agency, freedom of choice, and influence over a game, they are more inclined to stick with it (Deci & Ryan, 2012). Additionally, online interactive games frequently have

elements that give players a sense of freedom and control over manipulating different aspects of the game, which in turn have been found to fuel the players' motivation to keep playing (Eng, 2021).

Psychological Need for Relatedness

Players can interact with one another through online games, which satisfies their need for relatedness or the desire to feel welcomed and connected to others (Deci & Ryan, 2012). During the COVID-19 pandemic, many addicted gamers established social networks to foster relatedness. Contrary to this, young people with social deficiencies frequently crave interpersonal connections and spend much time playing interactive games that can become addictive. Thus, when these basic psychological needs are satisfied in the virtual world, players are more eager to continue playing and are less likely to try to satisfy these needs outside the game (Deci & Ryan, 2012). Meanwhile, studies by Heiden et al. (2019) reported that boredom, a decline in psychological well-being, trouble communicating with people, or a lack of real-life friends were the characteristics that predicted gaming addiction. Additionally, the inherent need to cope with unpleasant life situations forced players to appreciate the social connections they have cultivated in the virtual world (Heiden et al., 2019). Hence, supporting these three conditions motivates people to participate and win the game.

Considering the SDT, the study aimed to identify the other factors associated with young adults' frequent engagement in online games. The provided theoretical framework served as a guide to identify themes and subthemes gathered from the focus group discussion (FGD) method. Over the last decade, children, adolescents, and adults have been seeking psychological services more frequently due to their problematic use of online video games (Rodríguez et al., 2017). Therefore, developing a successful treatment plan is essential. To the researcher's knowledge, there is no universal treatment for addiction to online games in the Philippines. Since there is not much research in this field, health professionals commonly adopt methods from other foreign countries. Hence, the rising incidence of mental health issues related to harmful gaming behavior is a mostly unresearched phenomenon. Thus, in the context of the COVID-19 pandemic, this research study would contribute to the minimal published literature and enable us to better comprehend the emerging IGD as a mental condition affecting today's generation.

Methodology

Research Design

Accordingly, the researcher employed a sequential explanatory mixed-method research design. This approach combines the quantitative and qualitative techniques into a single study to address the research problems (Ivankova et al., 2009). Thus, the information and data were accumulated in two consecutive phases. Correspondingly, the researcher initially obtained and examined quantitative (numeric) data before gathering and examining qualitative (text) data (Ivankova et al., 2009). The primary focus of this study largely depended on quantitative information as it provided a broad understanding of the research phenomena being studied. In the first phase of the study, descriptive and inferential methods were used to determine the respondent's level of gaming addiction and the associated manifestations of psychological distress. Whereas in the second qualitative phase of the study, data were gathered from FGD with the addicted and non-addicted gamers to identify the other contributing factors to frequent engagement in online interactive games.

Sample

The quantitative approach had a total sample size of 399 young adult gamers recruited using snowball sampling techniques. In contrast, the qualitative method had a group size of 20 addicted and non-addicted gamers recruited using purposive sampling techniques. The inclusion criteria for the first part of the study included respondents who are (a) between the ages of 18 and 24; (b) Filipino citizens; (c) residents of the specified community areas in Pasig City; and (d) frequently playing any form of online interactive gaming. Further, in the second qualitative phase of the study, addicted gamers who (a) exhibited either monothetic or polythetic addiction to online gaming; and (b) experienced moderate to severe psychological distress were eligible. Also, the second group included non-addicted gamers who (a) met less than three of the criteria identified by the Gaming Addiction Scale (GAS) questionnaire; and (b) had normal to mild indicators of psychological distress as measured by the Depression Anxiety Stress Scale-21 (DASS-21) were qualified. The respondents also had six months of experience with the abovementioned criteria.

Instruments

The researcher collected data using three research instruments. The Gaming Addiction Scale (GAS) and the Depression, Anxiety, and Stress Scale-21 (DASS21) were used in the first quantitative phase, followed by a FGD in the second qualitative phase of the study. The researcher utilized the GAS questionnaire to assess seven fundamental criteria for gaming addiction, including salience, tolerance, mood modification, relapse, withdrawal, conflict, and problems, all of which are grounded on the DSM-5's recommended diagnostic criteria. On a 5-point scale, respondents were asked to rate their frequency of engagement with online games. The 21-item scale component of GAS demonstrated good construct and concurrent validity among adolescents and adults (Lemmens et al., 2009). Further, the Depression

Anxiety and Stress Scale-21 (DASS21) was employed by the researcher to assess the negative emotional states of depression anxiety and stress. Each of the three domain scales had seven questions, and respondents rated each item on a four-point scale. Regarding the subscales, the DASS-21 had good Cronbach's alpha scores of .78, .89, and .81, respectively, and showed good internal consistency and convergent, concurrent, and discriminative validity in various contexts (Lovibond & Lovibond, 1995). Thus, these two equally different instruments used in this study were standardized and valid across all domains. Moreover, the FGD guide was reviewed, and the content was validated by two clinical psychologists and one psychometrician expert to confirm the correctness of the interview questions.

Data Collection

Before conducting the study, the researcher requested approval from Centro Escolar University –Institutional Ethics Review Board (CEU-IERB) to ensure that human participants were treated fairly and ethically. The researcher administered an online survey questionnaire to 399 eligible male and female young adult gamers who regularly play online interactive games after receiving permission from the CEU-IERB. The survey link was circulated across Facebook informal gaming groups of Pasig, particularly in the communities of Rosario, Bambang, San Miguel, and Sagad. Similarly, in the second qualitative phase of the study, the researcher evaluated the quantitative section of the survey data and tallied the top ten and bottom ten scorers. Target respondents were asked to participate in the FGD, and the researcher then collected information and data using the semi-structured interview guide. The FGD session spanned two days and lasted around two hours each (2022, June 15-16)

Analyzing of Data

This study employed descriptive and inferential statistics in the first quantitative phase, including the mean, frequency, percentages, standard deviation, chi-square, and Cramer's V. The researcher used frequency and percentages to determine the respondent's gender, educational level, employment level, and socioeconomic status, hence answering the initial problem statement. In addition, the chi-square was employed to differentiate young adults' gaming addiction and psychological distress levels based on gender. The results arguably addressed the second and third problem statements. Furthermore, chi-square and Cramer's v were used to determine the relationship and strength of association between the two variables, thus addressing the fourth problem statement.

In the second phase of the study, the researcher followed the study of Kiger and Varpio's (2020) qualitative thematic analysis procedure. The information and data acquired during the qualitative phase of the investigation were evaluated and coded using thematic analysis. The researcher recorded the focus group session using an online voice recorder, after which it was transcribed to identify the primary themes and subthemes. To become acquainted with the data from the semi-structured interview guide, the researcher reviewed and analyzed it several times. The generated code was created based on the FGD session's content. After the initial coding, the codes were interconnectedly grouped in which the researcher searched for patterns across the transcribed data. Afterward, the researcher reviewed and refined the themes that had been extracted and constructed the final report aligned with the overall research interest (Mortensen, 2020). Hence, the outcome was used to answer the fifth problem statement of the research study and propose a preventive intervention program.

Findings / Results

In the first quantitative section of the study, the researcher recruited 399 male and female respondents from the selected community areas of Pasig. The respondents were gathered using snowball sampling techniques from social media informal gaming groups. The first section contained a detailed presentation and discussion of the following: respondents' sociodemographic characteristics (i.e., gender, educational status, employment, and socioeconomic status), the frequency and percentage of respondents experiencing monothetic and polythetic game addiction, and the associated manifestations of mild, moderate, and severe psychological distress. Furthermore, gender differences in gaming addiction and psychological distress are shown, as well as the correlation and strength of the relationship as measured statistically by chi-square and Cramer's V.

Table 1. Sociodemographic Characteristics of the Respondents

Gender	f	%
Female	115	28.82
Male	284	71.18
Total	399	100.00
Educational Status		
Bachelor's	155	38.85
Master's	4	1.00
No Schooling	35	8.77
Senior High	70	17.54
Technical Vocational	19	4.76
Undergraduate Student	114	28.57
Total	399	100.00
Employment Status		
Employed	154	38.60
Freelance worker	15	3.76
Part-time worker	31	7.77
Self-employed	38	9.52
Unemployed	159	39.85
Total	399	100.00
Socioeconomic Status		
Lower Income	70	17.54
Lower Middle Income	95	23.81
Middle Income	201	50.38
Upper Income	13	3.26
Upper Middle Income	17	4.26
Total	399	100.00

Table 1 presents the sociodemographic characteristics of the research respondents. The gender distribution of young adult gamers comprised 284 (71.18%) male respondents and 115 (28.82%) female respondents. Concerning educational status, the data show that a slight majority of the respondents are bachelor's degree holders comprising 155 (38.85%) young adults, while more than a quarter, 114 (28.57%), are currently pursuing their undergraduate studies. Further, (17.54%) of the respondents had completed their senior or secondary education, while a substantial percentage of 35 (8.77%) had not attended any school. In the employment status, outcomes of this survey indicate that a large proportion of the respondents are employed, consisting 154 (38.60%) and unemployed, comprising 159 (39.85%). A small proportion, respectively, consists of self-employed 38 (9.52%), part-time workers 31 (7.77%), and freelance workers 15 (3.76). Whereas in the socioeconomic status of the respondents, the majority of the young adult gamers come from the middle-income household, 201 (50.38%), while only less than a quarter, 95 (23.81%), are under lower-middle-income households. The remaining 100 (25.06%) were categorized as lower-income, upper-income, and upper-middle-income households.

This study was composed mainly of male respondents who frequently play online interactive games. Although some respondents from Pasig were still enrolled in undergraduate programs, most had bachelor's degrees. Most young adult gamers aged 18 to 24 were either employed or unemployed and came from middle- to lower-income families.

Table 2. Respondents' Level of Gaming Addiction

	Male		Female		Total	
	f	%	f	%	f	%
Monothetic	61	21.48	21	18.26	82	20.55
Polythetic	114	40.14	44	38.26	158	39.60
Non-Addicted	109	38.38	50	43.48	159	39.85
Total	284	100.00	115	100.00	399	100.00

Data indicate that most young adult gamers exhibited polythetic addiction to online interactive games, while some respondents had severe symptoms of addiction to online interactive games (monothetic addiction). Non-addicted gamers who frequently play online interactive games are outnumbered among all but nearly equal with polythetic addiction. A small proportion of monothetic gamers are male, 61 (21.48%), while nearly 21 (18.26%) are female, young adult gamers. Results further indicate an average of 82 (20.55%) monothetic gamers among the research respondents. This study shows that monothetic gamers fulfilled all criteria endorsed for gaming addiction, including salience, tolerance, mood modification, relapse, withdrawal, conflict, and problems. Moreover, a high proportion of polythetic

gamers are males comprising 114 (40.14%), whereas females 44 (38.26%). Findings imply that polythetic gamers met at least four of the seven criteria endorsed in the DSM-5. Correspondingly, the non-addicted male gamers comprise 109 (38.38%), whereas there are 50 (43.48%) female non-addicted individuals. As observed, results indicate a total of 159 (39.85%) non-addicted gamers. Results mean that 159 (39.85%) non-addicted gamers among the respondents met only three of the seven underlying criteria.

Table 3. Respondents Level of Psychological Distress

Level of Depression of the Respondents						
	Male		Female		Total	
	f	%	f	%	f	%
Severe	8	2.82	2	1.74	10	2.51
Moderate	62	21.83	31	26.96	93	23.31
Mild	54	19.01	24	20.87	78	19.55
Normal	160	56.34	58	50.43	218	54.64
Total	284	100.00	115	100.00	399	100.00
Level of Anxiety of the Respondents						
	Male		Female		Total	
	f	%	f	%	f	%
Extremely Severe	7	2.46	3	2.61	10	2.51
Severe	30	10.56	17	14.78	47	11.78
Moderate	78	27.46	38	33.04	116	29.07
Mild	33	11.62	17	14.78	50	12.53
Normal	136	47.89	40	34.78	176	44.11
Total	284	100.00	115	100.00	399	100.00
Level of Stress of the Respondents						
	Male		Female		Total	
	f	%	f	%	f	%
Moderate	12	4.23	3	2.61	15	3.76
Mild	28	9.86	16	13.91	44	11.03
Normal	244	85.92	96	83.48	340	85.21
Total	284	100.00	115	100.00	399	100.00

The findings show that a high proportion of young adult gamers from the selected areas of Pasig manifested moderate depression and anxiety during the COVID-19 pandemic; however, lower stress levels are evident. Results suggested that on the depression subscale, over half, or 160 (56.34%) of the male and 58 (50.43%) of the female respondents, showed no signs or symptoms of depression. Results further indicate a total of 218 (54.64%). Moreover, less than a quarter of male respondents exhibit mild 54 (19.01%) and moderate 62 (21.83%) symptoms of depression. Merely 24 (20.87%) female respondents indicated mild symptoms of depression, and more than a quarter, 31 (26.96%), exhibited moderate signs of depression. As observed, results further indicate an average of 78 (19.55%) and 93 (23.31%) for both mild and moderate anxiety symptoms. The tiniest fraction among male young adult gamers is 8 (2.82%) who show severe symptoms of depression. In comparison, a percentage of 1.74% or 2 of the female respondents experienced severe symptoms of depression, and a total of 10 (2.51%) among young adult gamers. Accordingly, Liu et al. (2018) pointed out that over 26 percent of video gamers had depression, and a similar study by Peterson (2021) concluded that depression occurs in over a quarter of all people with gaming disorders (Peterson, 2021).

On the anxiety subscale, 136 (47.89%) male and 40 (34.78%) female, young adult gamers showed no signs or symptoms of anxiety, thus, getting an average of 176 (44.11%). However, a slight majority of the respondents, i.e., 33 (11.62%) of the male respondents experience mild symptoms, while 17 (14.78%) females; for moderate symptoms of anxiety, 78 (27.46%) males and 38 (33.04%) females, thus, comprising a total of 116 (41.06%) respondents. Alongside, some male and female respondents exhibited severe symptoms; 30 males (10.56) and 17 females (14.78%); and extremely severe symptoms were seven males (2.46%) and three female respondents (2.61%), indicating a total percentage (14.29%). Results affirm the conclusion drawn from the research of Game Quitters (n.d.-b), stating that 92% of all gaming disorder cases present anxiety symptoms. Concerning the stress subscale, it indicates that a significantly higher proportion of male, 244 (85.92%), and female, 96 (83.48%) young adult gamers experience normal or no symptoms of stress, indicating a total of 340 (85.21%) among the respondents. Meanwhile, a small percentage of males, 28 (9.86%), and females, 16 (13.91%) young adult gamers, undergo mild symptoms of stress, obtaining a total percentage of 44 (11.03%). A percentage of (4.23%) among male respondents and (2.61%) of female, young adult gamers exhibit moderate symptoms of stress, achieving (3.76%).

Table 4. Comparison of Gaming Addiction among Male and Female Young Adults Gamers

		F	M	Total	Chi Square	p-value	S
Gaming Addiction	Monothetic	21	61	82	1.019	P = .601 > .05	NS
	Non-Addicted	50	109	159			
	Polythetic	44	114	158			
Total		115	284	399			

As shown in Table 4, the difference in the level of gaming addiction between male and female young adults during the COVID-19 pandemic was tested. The utilization of Chi-Square revealed no significant difference in the level of gaming addiction in terms of gender $\chi^2 = 1.019, p = .601 > .05$. Therefore, the researcher failed to reject the null hypothesis. Data reveal that males and females between 18-24 equally manifested monothetic and polythetic addictions to online interactive games. Accordingly, this reflects the data of Women and Video Games (2022), in which the study concluded that the gender ratio of gaming-associated problems is closer to equal (Canada 49:51; US 47:53; Germany 49:51; and France 52:48).

Table 5. Comparison of the Level of Psychological Distress of Male and Female Respondents

	Chi-Square	p-value	Sig
Depression	1.968	0.579 >.05	NS
Anxiety	5.960	0.202 >.05	NS
Stress	1.846	0.397 >.05	NS

Table 5 compares the level of psychological distress of young adult gamers during the COVID-19 pandemic. Based on the obtained data, this study found no differences in the level of psychological distress in terms of gender $\chi^2 = 1.968, p = .579; \chi^2 = 5.960, p = .202; \chi^2 = 1.846, p = .397$. Therefore, the researcher also failed to reject the null hypothesis. Findings show that male and female young adult gamers from the selected areas of Pasig manifested similar levels of moderate symptoms of depression and anxiety during the COVID-19 pandemic. However, lower levels of stress were also evident on the counterpart. Related studies support that depression and anxiety is a common comorbidity with addicted gamers (Game Quitters, n.d.-a).

Table 6. Relationship between the Young Adults' Gaming Addiction and Psychological Distress

	Monothetic	Non-Addicted	Polythetic	Total	Chi-Square	Cramer's V	p-value	S
D Mild	16	26	36	78	53.008	.258	< .05	S
Moderate	38	18	37	93				
Normal	24	114	80	218				
Severe	4	1	5	10				
Total	82	159	158	399				
A Extremely Severe	5	1	4	10	46.463	.241	< .05	S
Mild	12	16	22	50				
Moderate	31	37	48	116				
Normal	18	98	60	176				
Severe	16	7	24	47				
Total	82	159	158	399				
S Mild	18	7	19	44	29.849	.193	< .05	S
Moderate	6	0	9	15				
Normal	58	152	130	340				
Total	82	159	158	399				

Table 6 shows a significant relationship between gaming addiction and depression level $\chi^2 = 53.088, \phi = .258, p < .05$ signifying a moderate level of relationship. There is also a significant relationship between gaming addiction and the level of anxiety $\chi^2 = 46.463, \phi = .241, p < .05$, showing a moderate relationship. Moreover, the data revealed a significant relationship between gaming addiction and stress levels, indicating a weak relationship. Based on the results shows that there is a significant relationship between young adults' game addiction and perceived psychological distress. A moderate level of relationship substantiated the association. As such, the literature of Rujataronjai and Varma (2017) suggested that the greater the amount of depression, anxiety, and stress, the greater the level of addiction to online games.

Table 7. Factors Contributing to Frequent Engagement to Online Games Among Addicted Gamers

Themes	Subthemes	f
Coping Mechanism or Coping in Challenging times	Relief from stress	4
Using Online Games to Manage Moods	Alleviates existing feelings of sadness, loneliness (isolation), and mood swings.	3
Dependency on the Positive Emotional Effects	Feelings of happiness, euphoria, and excitement, self-fulfilment	6
Familial Environment	Family conflict / unmet emotional needs at home	4
Social Functioning & Peer Conformity	Influence of friends and schoolmates	7
	Seeking social interaction	3
	Social status (rank in games)	3
	Engaging themselves to online games to match with others because of social pressure	3
Form of Fantasy and Escapism	Escaping reality	4
	Escaping boredom	5

Thematic analysis revealed that male and female young adult gamers' frequent engagement in online interactive games had been their coping mechanism whenever they encountered stressful situations. The pleasure and enjoyment the participants received from gaming helped them cope with daily stress. Furthermore, nearly half of the respondents used online games to manage their moods. Results also explain that some participants cannot control their emotions and turn to online games to regulate themselves. Games distract the respondents from adverse emotional problems such as sadness, loneliness, and mood swings. Likewise, most of the respondents play online games to maintain dependency on the positive emotional effects provided by the game.

Similarly, some respondents experienced family conflict and unmet emotional needs at home, forcing them to divert to online gaming. Accordingly, results also revealed that most respondents frequently played online interactive games to seek social interaction, social pressure (they want to be fit and feel accepted by the group), and play games to gain social status. In addition, most participants compulsively play to escape reality and alleviate their day-to-day intense boredom.

Table 8. Factors Contributing to Frequent Engagement to Online Games among Non-Addict Gamers

Themes	Subthemes	f
Self-Interest	Hobby (in moderation)	7
Distraction	Stress reduction activity	4
Socialization	Build friendships and a way of communication	3
Boost Self-Esteem	To improve, build confidence and skills	6

Thematic results further suggested that most participants played online interactive games for self-interest or as a pastime hobby. Findings also demonstrate that most players viewed it as a healthy, enjoyable gaming hobby since it offers continuous enjoyment outside of work or school hours. Nearly half of the participants regularly played online games for distraction and stress reduction from daily stress patterns and to build positive feelings. As stated, gaming helped them to relax and recover from stress, just like taking fresh air. The analysis also revealed that most gamers were interested in playing online interactive games regularly to build friendships and communicate with existing friends. Likewise, more than half of the participants said they regularly played online games to improve themselves, gain confidence, and enhance skills accumulated in gaming.

Discussion

Accordingly, this study primarily consisted of male respondents who frequently play online interactive games. The results reflected previous studies by Ko et al. (2019), which concluded that online gaming is more prevalent among male adults than females. Although some respondents from Pasig were still enrolled in undergraduate programs, most had bachelor's degrees. Accordingly, the Statista Research Department (2021) findings suggest that Filipinos aged 18 and 24, accounting for 27.1% of students, were the second largest age group playing online-related games. Similarly, Jones (2003) provided a thorough summary of the data, showing that 70% of college students reported playing video, computer, and online games regularly or occasionally. Most young adult gamers aged 18 to 24 were either employed or unemployed and came from middle- to lower-income families. As such, a similar study by Tattershall (2018) stated that 69% of employees intend to stay with their current employers for more than three years if they have similar interests or hobbies. However, Adair's (n.d.) previous research states that overexposure to gaming interferes with their capability to obtain employment, which is evident in the relatively 39.85% of unemployed young adults. Moreover,

Ozgur's (2019) study showed a substantial difference between online gaming addiction and family income. Therefore, gaming levels vary negatively depending on family income (Kim, 2018).

Key findings revealed that most young adult gamers did not have a gaming addiction but were nearly equal to the respondents who experienced a polythetic addiction to online interactive games. Likewise, a tiny percentage of respondents suffered from severe monothetic addiction. Studies show that one out of five students are classified from moderate to severe addiction levels when they play mobile or online games for 2 to 4 hours daily (Sayeed et al., 2021). It is alarming that addiction to mobile/online games is very high (58.9%) among students and all age groups (Sayeed et al., 2021). Conversely, in Li et al. (2021) study, the compensatory motivation behind gaming plays a considerable role for non-addicted players. Further, most gamers showed no indications of depression, anxiety, or stress; however, half of the respondents experienced mild to moderate symptoms of depression and anxiety during the COVID-19 pandemic. Similarly, a study by Peterson (2021) concluded that the relationship between video games and depression is highly substantial. This study explains that depression occurs in over a quarter of all people with gaming disorders (Peterson, 2021). Males and females between 18 and 24 showed similar indications of monothetic and polythetic addiction to online interactive games. As a result, the study discovered no gender differences in the extent of gaming addiction. Similarly, conclusions from the Women and Video Games (2022) showed that the gender ratio of the gaming-related problem is close to equal (Canada 49:51; US 47:53; Germany 49:51; and France 52:48).

Given that women now account for half of the gaming population, the number of female online gamers is likely to have grown over the last two decades, leaving them more susceptible to developing online gaming addictions (Women and Video Games, 2022). This study also found no differences regarding the manifestation of psychological distress concerning gender. The respondents from the communities of Pasig displayed similar (equal) levels of depression and anxiety combined with lower levels of stress during the COVID-19 pandemic. Related studies support that depression and anxiety is a common comorbidity with addicted gamers (Game Quitters, n.d.-a). Also, supporting research shows that up to 92% of addicted male gamers have existing depression comorbidities; thus, when these disorders interact, they often affect each other (Game Quitters, n.d.-a). Accordingly, APA (2013) suggests that women are approximately two times more likely than males to be diagnosed with depression. Likewise, Rochlin (2020) stated that female players are more prone to be addicted to online games since they are emotionally driven, making them more prone to addictive behavior. In terms of the association, this study found a significant moderate relationship between young adults' gaming addiction and the perceived level of psychological distress during the COVID-19 pandemic. Conversely, the literature of Rujataronjai and Varma (2017) suggested that the greater the amount of depression, anxiety, and stress, the greater the level of addiction to online games.

Qualitative findings also suggested that, among addicted gamers, respondents' frequent engagement in online interactive games was due to the following factors: (a) coping mechanism; (b) managing moods and dependency; (c) dysfunctional family relationship; (d) seeking social interaction, social status, and social pressure; (e) form of fantasy and escapism. Contrastively, among non-addicted gamers, the following factors were found: (a) self-interest; (b) distraction; (c) socialization; and (d) enhanced self-esteem. With this, a preventive intervention program was proposed for young adults at risk of developing IGD. The program aimed to help minimize, eliminate, or reduce possible mental health problems concerning unhealthy gaming behavior to achieve greater well-being.

Conclusion

Despite the continued emergence of gaming addiction and psychological distress, the phenomenon has hardly ever been the focus of in-depth research. With this, the current study aimed to assess young adults' gaming addiction and perceived psychological distress during the COVID-19 pandemic and identify the other factors contributing to the respondents' frequent engagement in online interactive games. Based on the study findings, the following conclusions were drawn:

1. The young adult male and female gamers experienced similar game addiction and psychological distress levels during the COVID-19 pandemic, which is substantiated by a moderate level of relationship. Many supporting research studies have established that depression and excessive gaming are correlated, implying that they are related and influence each other; that is, when gaming intensifies, depression also intensifies Liu et al. (2018). However, in today's modern society, it is surprisingly suggested that females also make up about half of the gaming population, making them even more susceptible to this addictive behavior, similar to men (Rochlin, 2020).
2. The gamer's motives behind playing influence how frequently they engage in online interactive games. Addicted gamers attempt to compensate for what they lack, leading to negatively associated factors, whereas gamers who are not addicted are associated with positive, beneficial factors.

Recommendations

Given the study findings, the following recommendations are offered:

For Mental Health Professionals. To organize and conduct more webinars/seminars on the ill effects of online game addiction, counseling programs, and individual therapy sessions for those experiencing psychological distress due to online game addiction. Likewise, to use the present findings to refine the conceptualization of IGD as a mental disorder and develop a more comprehensive treatment method.

For Future Researchers. It is recommended to replicate and continue the study since the lack of research in this area hampers the Philippines. Since the researcher was not able to cover the other extraneous variables, the following are recommended for further investigation (a) game addiction and associated psychological distress, including its patterns, course, and development of the disorder; (b) vulnerability factors; (c) affective behavioral and cognitive consequences; (d) prevalence and magnitude of game addiction; as well as (e) the conduct of experimental design to be conclusive about the directionality of causation.

Limitations

The results of this study should be viewed in light of its limitations. The sample size of this study was only 399 and may not have been representative enough of a general population. A larger sample may be required to yield sufficient statistical power. Also, the sample size was insufficient to capture distinctions between males and females. A broader scale of surveys in future research is recommended. The researcher also limited the analysis to certain community areas of Pasig, Metro Manila, Philippines, and the findings may have been different if conducted on a broader scale. All the information used in the study was self-reported and, therefore, vulnerable to self-report bias.

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