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## **The impact of online gaming on psychological and social well-being among college students in Brunei Darussalam**

**Salwa Mahalle\*, Fifi Faulina Zailani**

Universiti Brunei Darussalam, Brunei

\*Corresponding Author: Author: [salwamahalle@ubd.edu.bn](mailto:salwamahalle@ubd.edu.bn)

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### **ABSTRACT**

Online gaming is becoming popular among teenagers as adults. The impacts of playing games may be positive or negative. Hence, the research aims to determine the impacts of online gaming on one's social and psychological well-being, specifically in terms of how online gaming affects students' social integration and social interactions and how online gaming is related to depression. The participants in this study are 180 college students, and data was analysed quantitatively. The findings revealed that among the college students, the majority identified as explorers (33%), followed by achievers (30%), killers (24%), and socializers (13%). The study indicated that while moderate gaming can enhance social integration, excessive gaming is linked to increased feelings of loneliness and depression. Students who spent less than three hours gaming maintained their real-life social relationships, suggesting that controlled gaming can coexist with healthy social interactions. Conversely, those who experienced feelings of loneliness in-game were more likely to report depressive symptoms, highlighting the importance of social support in mitigating negative psychological outcomes. In conclusion, online gaming does not inherently harm social and psychological well-being; rather, gaming time management and the nature of social interactions determine its impact. Recommendations include promoting awareness of mental health issues related to gaming and encouraging students to seek support when needed.

**Keywords:** online gaming, psychological and social well-being, college students

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### **INTRODUCTION**

Internet use is inevitable in the present era of modern technology and globalization as it has become an integral aspect of life for communication and networking with people worldwide. The Internet can be perceived in many ways as being useful, particularly for seeking almost any information or knowledge and skills, for work or leisure, and in promoting business and marketing; this includes the increasing growth of business for online gaming (Ku & Gupta, 2008). The Statistical Portal (2018) has shown an astounding 912 million video gamers in 2016 in Asia Pacific, whereas in North America, the number of gamers reached 200 million. According to the Entertainment Software Association (2015), in the United States alone, the number of people who play video games is 155 million, with an average of two gamers in each U.S. household and four out of five U.S. households owning a device used to play video games.

For individuals, online gaming often offers opportunities not only to achieve the satisfaction that comes with the concept of playing in the game but probably more than just that; that is to socialize, interact and engage with people not just within their proximity but also beyond that as in anywhere within or outside the country. The study of Griffiths et al. (2004) indicated that 35% of players' motivation to play was to socialize and group with other in-game players. More recent studies examining motivation for online gaming reported that the social aspect of gaming indeed plays an essential role in keeping gamers online with their online counterparts (Domahidi,

Breuer, Kowert, Festl, & Quandt, 2018; Frostling-Henningsson, 2009). According to Frostling-Henningsson (2009), young adults perceived their motivation to stay online due to the kind of social connection with their counterparts, which was achievable through 'cooperation, communication, control, escapism, flow, experience, and as a hallucination of the real' (p.561). Research evidence also shows that to achieve high social support, online gamers may need to continue to stay close to each other during offline activities (Trepte, Reinecke, & Juechems, 2012).

Domahidi et al. (2018) describe social support as an index of relationship quality which depends on the kinds of social resources achieved through active interaction with others. These social resources are comprised of specific supportive behaviours, which can be further divided into 'tangible or instrumental support and emotional or esteem-enhancing support' (Malecki & Demaray, 2003, p. 232). The latter types of social support are known to have important roles that impact an individual's overall sense of well-being and psychological and physiological health (Morelli, Lee, Arnn, & Zaki, 2015). Further, online gamers with high social support are convinced that they have gained care, respect and recognition as part of the social network and mutual assistance (Kaczmarek & Drzakowski, 2014). Those studies imply that the consequences of prolonged online gaming may be determined by the kind of social support the players gain from online gaming. An increasing number of research studies have now begun to show the impacts of online gaming on an individual's psychological and social well-being due to the kind of social support gained from online activities (Holt-Lundstadt, 2015; Kaczmarek & Drzakowski, 2014; McLean & Griffiths, 2019)

Thus, the present study aimed to explore the impact of online gaming, particularly in looking at the level of social support (as defined by the different characters they chose in video games) on the gamers' psychological and social well-being. The following section presents some findings from related studies on the impacts of online gaming on psychological well-being and how the consequences of online gaming can also lead to loneliness and depression

The present study explores the psychological well-being of an individual when playing online games. Ryff and Keyes (1995) proposed that psychological well-being includes six distinct positive psychological aspects: self-acceptance, personal growth, purpose in life, positive relations with others, environmental mastery, and autonomy.

Recent studies have shown that playing games online can be rewarding and motivating for players who have achieved continuous success and recognition from fellow gamers, promoting positive psychological well-being. According to Chen and Duh (2009), one of the aspects of understanding players' motivation in online gaming is self-development, which addresses the players' needs to establish their ideal online selves as their alter egos and to gain achievement and a sense of belonging to a community.

Despite the advantages it has for players, online gaming can also be harmful towards the well-being of the players, such as being addicted to gaming (Van Rooij et al., 2011), difficulty taking control over certain behaviours during gaming, which may lead to mental health concerns such as anxiety and depression (Mandryk & Birk, 2017), or compulsive gaming which often leads to addiction (Przybylski et al., 2009). In fact, the American Psychiatric Association has recently added Internet Gaming Disorder (IGD) in the manual as a work-in-progress temporary disorder, which warrants more research to be conducted (Paulus, Ohmann, von Gontard, & Popow, 2018).

Further, online gaming can lead to behavioral changes depending on the context of social gaming (McLean & Griffiths, 2013). Playing games, with constant exposure to violent video games, may lead to behavioral changes such as displays of physical and verbal aggression and low empathy (Anderson & Dill, 2000; Grusser et al., 2006) although the conclusions about the harm brought by violent video games are yet to be conclusive (Boyle, Connolly, & Hainey, 2011). Nevertheless, other behavioural changes due to online gaming may be associated with a feeling of lower self-worth, which leads to feelings of loneliness and unworthiness (McLean & Griffiths, 2019), especially when there is low social support. There is also evidence showing the impacts of prolonged time used for playing games on the mental health of the player (Wei, Chen, & Huang, 2012; Peng & Liu, 2010)

For the present study, both loneliness and depression were also explored to explain whether both psychological constructs correlate with each other.

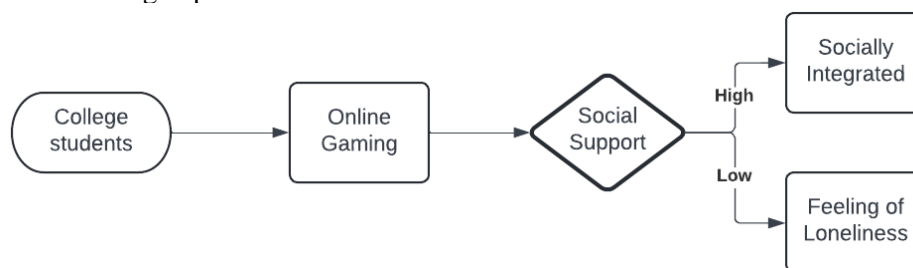
For this study, the feeling of loneliness will also be investigated as it is intertwined with one's psychological-emotional condition. Based on evidence from previous research, men who experience feelings of loneliness are often associated with the quality of their relationship with a spouse or partner. Meanwhile, for women, the absence of wider social networks may lead to loneliness (Bernard, 2013).

Depression is a mental state of depressed mood characterized by feelings of sadness, despair and discouragement (Seay, 2006). Depression is often correlated with feelings of low self-esteem, guilt, withdrawal from social contact with others, bad eating behaviour and sleep disturbances. In online gaming, when one experiences depression which is due to low social support, it means that the individual frequently feels lonely due to receiving less or no social support from others.

The present study examines the impacts of online gaming on students' psychological and social well-being. Whether the impacts are positive or negative on their well-being, the students would acknowledge these and how counselling can help overcome any psychological and social distress. Specifically, the objectives are to examine whether the level of support from online gaming impacted students' social integration in-game and psychological well-being. To examine the relationship of loneliness from online gaming with depression in students.

The conceptual framework for the present study illustrates the social support received from online gaming, which is the focus of the analysis to explore the impact of online gaming on college students' psychological and social well-being. The researcher would examine students' social support levels from offline and online friends. Then, the researcher would find out if students are socially integrated with their gaming team members and social organization in the online game they play. Would it affect real-life social relationships? They would have fewer interactions with real-life social relationships, such as siblings, non-gamers, friends, etc.

The study also aimed to explore how students perceived themselves as experiencing the feeling of loneliness and whether loneliness was associated with low social support from in-game and offline friends. Further, it was also aimed to observe any correlations between feelings of loneliness and feeling depressed.



**Figure 1. Conceptual Framework**

Although there are no statistics available on the number of people who play online games in Brunei, the usage of online gaming is becoming popular and apparent. For instance, the Brunei E-Sports Tournament in 2017 was said to be the biggest gaming event in Brunei in recent years. The event attracted more than 500 players from across the country. Students may become socially confident and socially integrated with other players. These positive aspects of gaming need to be considered by others, especially by the students themselves. Online gaming not only alleviates the feeling of fun and excitement but also increases social integration and helping behaviours with other players, not just in the in-game world but also in the outside world. This study hopes to encourage students to perhaps utilize games to increase the level of social integration.

There is also, however, the need to acknowledge any potential harm which may come with prolonged games-playing as it may affect in terms of students' lack of interaction with real-life social relationships. Students immersed abnormally in the virtual world often fluctuate from their real-life state, affecting their education and becoming more anti-social.

Cohen et al (2000) asserted that social support indicates an individual's relationship quality and psychological well-being. Social support is achievable during online gaming, as reflected by the number of studies showing evidence of social integration. A longitudinal study conducted by Seay (2006) involved 2883 avid gamers who participated in the Project Massive Websurvey available for all American regions using an online questionnaire. The data was collected over a 14-month period. The findings suggest that active online gaming reduces isolation by promoting social integration only for gamers who adopted online gaming as a social platform to connect with real people, particularly with real-life friends and people close to them. The results found that there is an increased sense of available social support among relatives and loved ones compared to players who play without relatives and loved ones. The findings also showed that there has been no significant relationship between online gaming and depression.

The findings supported an earlier study conducted by Durkin and Barber (2002) with young adolescents who spent time playing games on computers and game consoles. The study indicated evidence of stronger positive correlations between the players and their relationship with family members than those who seldom play games. A recent study by Osmanovic and Pecchioni (2016) with older adults and their younger family members also reported positive outcomes of online games in improving interpersonal relationships as well as psychological well-being for both age groups.

Competition and collaboration also allow gamers to share experiences and time with those close to them and strengthen social bonds online and offline. Yee (2007) claimed that having parents and siblings playing together online brings benefits, especially how the gaming environment allows parent to observe their children in social interactions that they usually struggle to discover in the real world.

Players who like to help their team members are becoming more empathetic and open to discussions, even if it is related to sensitive issues. According to Griffiths et al. (2011), online gamers can obtain advice and reassurance by contributing helpful tips, suggestions and motivations to alleviate the issues that other players are experiencing. This is due to the 'anonymity' that online games offer. Talking to other players without knowing who they are or meeting them in real life makes them comfortable talking about anything. Conversely, there are also many debates on how gaming can negatively affect the social condition of an individual if they are immersed too much in the gaming world.

Hussain and Griffiths (2008) studied the comparison between online relationships and offline relationships and found that the rate of online socialization increased compared to offline socialization. A self-selecting sample of 119 online gamers ranging from 18 to 69 years of age completed a questionnaire. Results showed that one in five gamers (21%) said they preferred socializing online to offline. In contrast, significantly more male gamers than female gamers said they found conversing online easier. These results supported research done by Smyth (2007).

According to Ryan and Deci (2001), there are at least two broad approaches to defining psychological well-being, namely the 'hedonic approach', which means being happy at most times, achieving pleasure and avoiding pain. Secondly, the 'Eudaimonic Approach' emphasizes the importance of meaning, self-realisation, and full functioning. Wang and Hang (2021) in their study categorized game experiences into hedonic and eudaimonic, whereby the former type focuses on the enjoyment that is brought by the game itself. On one hand, the eudaimonic type explains values, meanings and purposes of playing that contribute to personal potential and growth. Their study with 25 avid in-game players demonstrated that they were more attracted to games that can provide eudaimonic experience. The findings based on in-depth interviews drew four distinguishing constructs for 'the satisfaction of key psychological needs such as competence, relatedness, autonomy, and purpose in life' (p. 1850). The findings also revealed that the players achieved social support and social integration, thus enhancing their psychological well-being.

Other studies have also shown other psychological impacts of online gaming. Gentile et.al (2009) explored the effects of pro-social video games on students' interpersonal skills. A total of 115 students from a German University were involved, and it was found that their interpersonal

empathy increased and reduced their feeling of pleasure for others' misfortune. Another study by Prot et al. (2014) explored longitudinal relations between pro-social violent video game use using a large sample of children and adolescents in Singapore. It was found that video gaming reduces aggressive thoughts, feelings, and behavior while increasing pro-social thoughts, empathy and helping behavior. Whilst acknowledging the psychological benefits which come with online gaming, it is noteworthy that negative consequences such as loneliness and depression can occur, affecting the psychological well-being of the gamer.

Reduced psychological well-being can be attributed to loneliness. Research has shown some evidence of loneliness and depression due to online gaming. Wang, Sheng and Wang (2019) defined loneliness as a negative experience occurring due to 'important deficiencies in a person's network of social relationships' (p. 247). Contacting people within one's social network does not necessarily eradicate loneliness (Wright et al., 2014). It is how one perceives the quality of the relationship with others and the kind of social support one gets. For instance, Segrin and Passalacqua (2010) reported, based on their study with 265 adults, that loneliness was significantly associated with lower social support and that loneliness mediates the connection between social support and health. Further, the findings revealed that loneliness is significantly associated with the number of close family and friends and not with the amount of interaction with close family members or significant others. The findings suggest that the quality of relationships with others is more important than the number of people in a social network who can overcome loneliness.

Strong feelings of isolation and loneliness resulting from the lack of social support have demonstrated effects on the psychological state, in particular depression, and how lack of social support leads to loneliness and eventually depression. A study by Han and Richardson (2010) examined the relationship between loneliness and depression among homebound older persons consisting of 40 respondents who lived alone in Columbus, Ohio. Results showed that the relationship between loneliness and depression was statistically significant, indicating that depression was correlated to loneliness.

In relation to online gaming, a number of studies have begun to show evidence of significant associations between online game addiction and loneliness. For example, Van Rooij et al. (2014) reported that highly addictive gamers who are adolescents showed reduced psychosocial health as measured with a Video game Addiction Test. The findings suggested that the adolescents, particularly those who were addicted to online gaming, experienced depression and loneliness, as well as social anxiety and poor self-esteem, and were academically poor at school. Research evidence has also shown that men who experience feelings of loneliness are often associated with the quality of their relationship with a spouse or partner, whilst for women, the absence of wider social networks may lead to loneliness (Bernard, 2013).

## **METHOD**

For this study, a questionnaire was designed to investigate the impacts of online gaming towards students' psychological and social well-being. A total of 180 students from one of the colleges in Brunei were chosen. The age ranges from under the age of 17 to 26 years old and above. The participants were intentionally selected based on certain criteria, whereby they had to be college students of Brunei Darussalam and avid gamers playing any online games regardless of which platform they play or what games they frequently play. The questionnaire consisted of 70 questions, and there were six sections. Kendall's Tau was used to find the correlation between two variables because normality is not assumed. The main advantages of using Kendall's Tau are the distribution of this statistic, which has slightly better statistical properties, and the direct interpretation of Kendall's Tau regarding probabilities of observing concordant and discordant pairs. The researcher conducted a pilot test involving 30 college students aged 17 to 26 years old and above. From the pilot test, Cronbach's Alpha test showed that the internal consistency of the items is 0.70, which is acceptable (Taber, 2018)

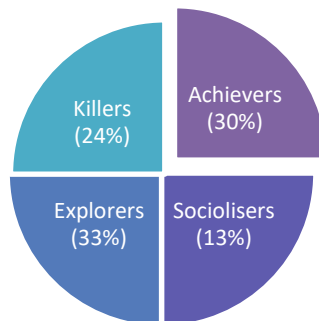
**FINDINGS AND DISCUSSION**

**Findings**

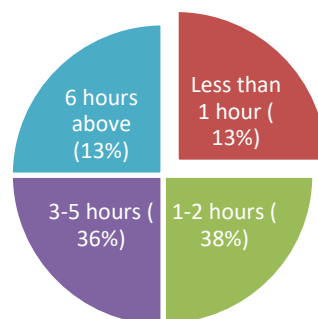
The findings based on the descriptive analysis of the responses revealed that among the college students, most of them like to play games in explorers (33%), achievers (30%), and killers (24%), and the last games which are social in nature (13%). For the types of gamers obtained among the students in college, the researchers use Bartle’s Four Player Types. The achiever, socializers, explorers and killers (Bartle, 2011). The highest type of player’s type amongst the participants in college, as shown in Table 2, is the Explorers, with 59 students (33%).

Explorers mean that students play games just to find out as much as they can about the virtual construct of the gameplay, including mapping its geography and understanding the game mechanics. Understanding game mechanics is as important as it allows players to be able to play well and progress well in-game. The second highest is Achievers, with 54 students (30%). Achievers means that players usually play games to gather points, be it gathering experience points to level up the character, achieving maximum character level, or achieving money and resources in-game to use as trade, sell or buy other resources.

The third highest is Killers (Figure 2), with 44 students (24%), which means that students use the game to cause distress to other players and gain satisfaction from inflicting anxiety and pain on others. The least types of players amongst these college students are Socializers, with 23 students (13%), which means that students use gaming as a virtual construct to converse and role-play with fellow gamers in-game, to know more about other gamers and about ones’ themselves (Bartle, 2011). The present research attempts to uncover whether the students are socially integrated in-game when given support. However, the results suggested that the students are not socially integrated or committed to playing in-game. This was because most of the participants or the students who participated in the study were not a “Socializers” type person. Hence, it hinders the result that online gaming impacts students’ social well-being.



**Figure 2. Types of gamers or roles among participants**



**Figure 3. Hours spent on playing Online Gaming**

Figure 3 shows the duration they spent playing games: 38% spent around 1-2 hours, 36% around 3 to 5 hours, and 13% spent less than 1 hour and 6 hours above. The hours of play players

spend in-game may also impact one's social and psychological well-being. As the research was conducted amongst college students, the highest number of gamers spent on gaming was around 1 to 2 hours per day. With many hours of play in-game, students may obtain some kind of psychological impact and social impact from playing games. However, with the numbers played are lesser than 3 hours, the results of most hypotheses were not supported. For instance, the level of social support, social integration and commitment towards their team in-game. It is proven that when players are socially active in-game, they will have more trusted bonds and boost their social interactions with fellow gamers while at the same time boosting their confidence and motivation to play. With lesser hours spent, students may not socially integrate with other players or socially active with other players. This, in a way, hinders students' socializing skills.

On the other hand, fewer hours of play spent in online gaming also benefits students' social well-being. The result showed that the students did not displace their social relationships in real life, meaning they still communicate and interact frequently with their family and friends. Hence, gaming did not hinder their relationship in real life. The number of hours of play is one major factor that causes this, as students in this study spent only less than 3 hours in the virtual world.

## **Discussion**

What is the relationship between the level of social support towards students' social integration in-game and student's psychological well-being? The research question tries to unravel whether there is a relation between players receiving high social support would lead players to be socially integrated and committed to in-game teams or organization, the result shows that there is no significant correlation between both variables of social support and social integration as shown in Table 5, which means that there is no relationship between players who have high social support be highly socially integrated or committed with their in-game organization or team. Social integration, in this sense, means players are willing to put in a great deal of effort to help the team, to be loyal to the team, accept almost any type of mission and quest to help members of the team, feeling extremely happy being in the team, and seeing the team as an inspiration to be better in performance.

Thus, the research question is trying to see whether there is a relation between students' social support in-game and students' and the hypothesis stating that with high social support by friends in-game, players would be fully socially integrated and committed to playing games is proven wrong. These could be caused or determined by several factors, specifically in the number of hours spent playing online games by these participants, as explained in hours of play participants have spent in online gaming, which was only about one to two hours. Playing less time in-game can cause players to not be fully socially integrated or interact with the organization or team in-game.

The negative impact of this is that the students or the participants did not have that social bond with their fellow gamers. Students who use the gaming domain to create more bonds with other players will have a much happier and more trusting relationship. As Seay (2006) mentioned, players use gaming as a medium to communicate and spend time with friends and loved ones. The study suggests that gaming can be just as useful as any other social platform in sustaining close relationships with family and friends (Seay, 2006). However, due to having less time to play games and not being the "Socializer" type of gamer, students received no social bond impact from online gaming. Due to this, players may be socially withdrawn in-game life, thus affecting their progression, which may lead to unhappy feelings. But the positive side to this is that when students are not socially integrated to spend their time on gaming for more than 3 hours, they are still able to do other things, for example, interacting and communicating well with their real-life family and friends, finishing daily chores, works, school assignments, outdoor and indoor activities. It is often the longer hours, typically 8 to 10 hours daily and at least 30 hours weekly, that one could be regarded as having compulsive gaming behaviour, which is problematic and raises attention (Paulus et al., 2018).

The researcher wanted to find out if there is a significant relation between players with feelings of loneliness in-game and feelings of depression, and the hypothesis result is supported.

This means that players who are experiencing feelings of loneliness have a high tendency to feel depressed. Feelings of depression include when one has no supportive friends or playing alone and feeling alone in-game. As inquired in the questionnaires given to participants, the depression comes from having no support from other players, restless sleeping due to receiving an unsupportive team, feeling demotivated for having no teams to play with, having trouble focusing their mind, feeling bad mood when friends ignored or rejected in-game, feeling irritated and angry when in-game friends isolated them, feeling the difficulties to overcome task alone, feeling lonely for having no one to play with, fearful to play alone, and feeling bothered by the things that do not usually bothers them. The study by David et. Al. (1980), on examining the relationship between loneliness and depression among undergraduates of the University of Los Angeles, indicated that loneliness and depression were correlated (David, John, Letitia, & Martin, 1980), hence this strongly justifies the results obtained for this research whereby feelings of loneliness and depression are inter-related.

The factors determining the feelings of loneliness in-game are mostly caused by having unsupportive friends in-game. With unsupportive friends, players' progression and performance in-game might be delayed or slow, which could lead players to feel irritated, angry, and in a bad mood. Due to these feelings, it led to depression. Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest, which affects how people feel, think and behave. Someone who is experiencing depression may have a hard time living in their real life in terms of interacting with other people, being unable to focus well on finishing tasks and jobs, experiencing different emotional problems, and jeopardizing one's health. "The symptoms of major depression are disabling and interfere with everyday activities such as studying, eating, and sleeping", as stated by the National Institute of Health (n.d) on depression and high school students.

## **CONCLUSION**

As for recommendations, playing online games does not always negatively affect one's social and psychological well-being. It is how the students themselves determine their own well-being. With good control over the time spent online, i.e. fewer hours of playing games, it will not affect their social life relationship. Students can still socialize with family and friends despite playing virtually for an hour or two. Online gaming is used to have fun and gain one's level of excitement and enjoyment. However, when one cannot control one's feelings, resulting in experiencing loneliness and depression, it hinders one's well-being. Thus, as a recommendation, counselling therapists should be able to promote themselves to colleges across the country to make students aware and acknowledge that depression is a mental disease and needs further treatment. Depression is curable if people are willing to put in a great deal of effort to help themselves.

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