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## IMPACT OF ONLINE GAMES AMONG UNDERGRADUATE STUDENTS

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**ABSTRACT.** This paper focuses on the impact of online games among Malaysian undergraduate students. The purpose of this study is to investigate whether online games (especially MMOGs) impacted students positively or vice versa; focusing on three elements (time management, social life and emotion). A total of 83 respondents comprised from 14 Malaysia universities, randomly selected undergraduate students who plays MMOGs (casual and hard core gamers – addiction to MMOGs) were involved in this study. The results showed that only students' capability in time management were negatively affected, meanwhile as for the elements social life and emotion, MMOGs do not affected them negatively.

**Keywords:** Internet game addiction, online games, MMOGs, impact, undergraduate students

### INTRODUCTION

The Internet has transformed the world by changing people access to information, connecting and communicating with others, allowing faster and cheaper process through the Internet which made our life easier in many ways. In 2008, more than half Malaysian residents were Internet users. Based on the growth of Internet users in Malaysia, the average hour use of Internet per week has become prominent. The number of user using Internet more than 28 hours a week has increased to 79.8% from 2005 to 2008 (MCMC, 2009). The Internet is top used for these activities namely; getting information, social networking, communication, education and downloading (MCMC, 2012). The percentage of young adult using the Internet keep on increased. A study done stated that 95% of adult with college or graduate degree are Internet users (Fadil Azim, Mohd Zam & Abdul Rahman, 2010). This is similar to the study done by MCMC where 24.8% of the Internet users in Malaysia are still studying. Students use the internet for two purposes; 1. Interactive asynchronous activities – emailing, discussing in forum, chatting and online shopping (especially in auction websites) 2. Non-interactive activities – surfing the web, downloading program and movies, and playing games (Fadil Azim, Mohd Zam & Abdul Rahman, 2010). Computer games have been positively and highly accepted among users especially children and teenagers (Perrin & Duggan, 2015). Computer games provide fun and entertainment to players and certainly addictive among gamers to explore, play, win, lose, retry and completing tasks given. Games have its evolution and

are now easily accessible on the Internet which is known as Online Games. Among the widely spread and accepted online games is MMOG (Massively Multiplayer Online Game). Originally referred to as Multi-Use Dungeons (MUDs), back in 1970s, players only connected to the; which was text-based game, operated on a mainframe computer using dumb terminal (Parsons, 2005). Today, with the availability of three-dimensional (3D) graphics and high speed connectivity provided by the Internet, individuals are able to see and interact with others in virtual worlds. While traditional video or computer games at some point or become very boring and repetitive, these MMOGs such as Dota 2 and Counter Strike: Global Offensive offer endless excitement. The challenges of goal, gameplay and achievement required in these games attracted players, along with MMOG allows players advancement on their character or profile - moving to the higher rank or level while collecting valuables and weapons becoming strong and wealthier (Ng & Wiemer-Hastings, 2005).

There are millions of people playing online-games without any serious effects on their lives but somehow a minority of players seem to have problems with a healthy amount of gaming hence American Psychiatric Association (APA) introduced the "Internet Gaming Disorder" in latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM5) (Lebenbauer-Baum & Fohringer, 2015). Ng and Wiemer-Hastings (2005) also said that massively multiplayer online role-playing games (MMORPG) which is the subset of MMOG were found to have more usage problems rather than offline video games.

This paper is focused on the students' activities of playing online games; the impact it has on students in Malaysia.

## LITERATURE REVIEW

In this section, definition of relevant words or terms will be discussed in detail which includes addiction and Internet addiction. According to psychological term, addiction is defined as an uncontrollable urge, often accompanied by a loss of control, continuous use in ignorance to the problem causes by the behavior. Meanwhile, abuse is considered a minor addiction that individuals have more control over the behavior (Young, 1996).

Even though addiction is commonly related to the use of drugs or something chemically dependent, Griffiths (1998) mentioned that, Internet offers some direct benefits as a technological advancement, thus making it, not a device to be said as addictive. Internet addiction is one of the Technological addictions which defined as non-chemical (behavioral) addictions that involve excessive interaction between human and machine (Griffiths, 1998). Thus, defining addiction has moved to a whole new level, which includes number of behaviors that do not necessitate drugs, such as gambling addiction and video gaming addiction.

As this study is focusing on MMOG's addiction which is the subset of the Internet addiction, Griffiths (2010) in International Journal of Mental Health and Addiction said that an activity cannot be claimed as addiction if there is only few or no negative impact to individual's life. For instance, online gamers who play up to 14 hours a day cannot be described as addicts if there is no negative impact in their life even though they spend excessive time on the activity. He concludes that there are differences between addicted gamers and excessive gamers, making it necessary for researchers to really understand the definition and terms in this field of study. Both addiction and abuse of the Internet usually will have a correlation with an impact and normally it will be more on negative impact rather than the positive one. Engage in MMOGs has been linked to many negative consequences (Ng & Wiemer-Hastings, 2005, Young, 2004, Griffiths, 2010, Lebenbauer-Baum & Fohringer, 2015). In this study, we are keen to study the impact of MMOG has on Malaysia undergraduate students (study time management, social life and emotion).

### **Study Time Management**

Ozcan & Buzlu (2007) stated that, students' Internet activities related to academic such as educational information searches or academic research decreased and the performance of Internet activities related to entertainment such as chatting, downloading, online gaming, sexual content, and listening to music increased as the Online Cognition Scale score increased. It shows that students tend to use the Internet for the non-beneficial purpose and waste a lot of time. Young (1996) has mentioned that students who engaged with excessive use of the Internet have less motivation in study habits, faced significant drop in academic results, and missed many classes and being placed on probation.

Addicts usually are excessive about their online usage, a session could last up to 20 hours and they tend to spend from 40 to 80 hours per week. The sleep patterns for addicts are disrupted due to late night online. Addicts generally stay up surfing the Internet until late morning with reality of having to wake up early for work or classes (Young, 2004).

Gaming addicts willingly to forgo their sleep and other necessities in real life just to stay longer in virtual life. Unlike traditional video games, online games such as MMOG's cannot be paused or stop once the player has started the session (Young, 2009)

Researchers from Stanford University explored the social dynamic of MMOG said that, guilt is one of the factor that influence players to spend lot of time on game. Players believe that if they leave the game, their teammates might not win the game. Hence, they tend to spend more time just to finish few sets of session (Duchneaut, Yee, Nickell & Moore, 2006). Hence based on the studies complied, we proposed a hypothesis that: *H1: MMOG brings negative impact in students' ability in time management.*

### **Social Life**

Young (1999) also stated that Internet addiction could bring negative impact to familial conflicts. She found that 53% of Internet addicts surveyed were reported to have serious relationship problems. Addicts spend less time with the people in their life in exchange for full filling time on the Internet. Marriages are the most affected as excessive Internet use interferes with responsibilities and obligations at home. She then gives an example of a mother that forgot such things as to feed her children, picking up her children after school and any other responsibilities as a mother because she use to live in Internet world (Young, 1999). At Nevada, a couple has been sentenced to be guilty for child neglect. They have left their babies starving and suffering to death because of the addiction to the Internet and video games (Jones, 2007).

It is suggested by researchers that Internet Gaming addiction brings to negativity in human social life. We come out with a hypothesis that: *H2: MMOG brings negative impact on students' social life.*

### **Emotions**

Generally, addiction is said to give impact on addict's psychology when the substance is withdrawn from them (Young, 2009, Ming & Wei, 2009, Griffiths, 1998, Griffiths, 2010). "Dependency" is the term used by many researchers to described psychological state of an addict in online gaming addiction (Kim, Nankoong, Ku & Kim, 2008, Ming & Wei, 2009). Young (1998) has given an example on how defensive and anger an addict can be when forced to not engage with online games anymore. She mentioned that, gamers who cannot access to the game can become so intense in emotion that they become irritable, anxious, or depressed. They tend to follow their emotion and stop thinking rationally thus give negative responds towards people in their live.

A study on relationship between online game addiction and aggression, self-control and narcissistic in South Korea has results in positive correlation between aggression and narcissistic personality traits with online game addiction. The researchers conclude that high dependency on online games was associated with interpersonal difficulties and stress in reality (Kim, Namkoong, Ku & Kim, 2008). Other studies on online games addiction identified that MMOG can trigger bad emotions once the individual has an addiction to it (Duchneaut, Yee, Nickell & Moore, 2006, Usman, Alavi & Shafeq, 2014, Ozlan & Buzlu, 2007). Therefore, we propose a hypothesis: *H3: MMOG leads to negative emotions.*

## OBJECTIVE OF STUDY

This is a report on a study aimed to investigate Malaysian undergraduate students' addiction in MMOGs and the impacts focusing on three areas (time management, social life and emotion). This study is a part of an under-going research i.e. the development of a virtual reality environment that treats stress among Malaysians.

## METHODOLOGY

Quantitative method has been used to collect data and information in this study. A set of questionnaires was constructed with reference to online gaming addiction in Malaysia and its undergraduates. The questionnaire was distributed online to undergraduate students in Malaysia. Invitations were carried out to gaming societies or representatives in all Malaysian universities and posted using social media (Facebook, Twitter, and WhatsApp). Students who were interested were given the link to the questionnaire to answer.

These questionnaires were disseminated to Malaysian undergraduate students who play online games only. To verify whether the Malaysian undergraduate students who participate in this survey are online gamers (regular players of Dota 2 and Counter Strike: Global Offensive), their identification name for online games platform such as Steam ID is required to be filled in. There is no restriction or limit for the age of respondents because undergraduate students can be at any age even majority who plays online games are expected to be young people. All answers given were analyzed to get the average percentage of the total answer.

## RESULT AND ANALYSIS

This section analyses the results gathered from the questionnaires.

### Respondents' Demographic Profile

The respondents participated were in the range of 18 to 35 years old. A majority of 93% respondents were from the age of 18 – 23 (most likely are currently undergoing their bachelor/diploma program). The frequency is as shown in Figure 1.

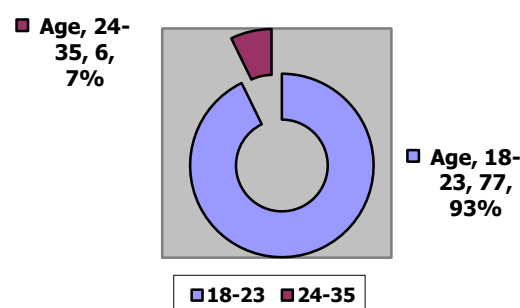


Figure 1. Frequency and Percentages of Respondents' Age

Table I shows the percentage of representatives from Malaysia universities involved. A total of 14 universities were included in this study.

**Table 1: Demographics of Respondents' Universities**

<i>University Involved</i>	<i>Fre- quency</i>	<i>Percent- age</i>
IUM	7	8.4
IUKL	1	1.2
RAFFLES UNIVERSITY ISKANDAR	2	2.4
TAR UNIVERSITY COLLEGE	1	1.2
UiTM	13	15.7
UKM	3	3.6
UMP	1	1.2
UNIKL	1	1.2
UNIMAS	3	3.6
UNITEN	40	48.2
UPM	6	7.2
USM	2	2.4
UUM	2	2.4

### Study Time Management

For the first hypothesis (H1: MMOG brings negative impact in student's ability in time management), students were asked about their abilities to manage their study time while playing MMOGs (Table 2).

**Table 2: Questions Related to Study Time Management**

#	Items
1	I stay online longer than I originally intended
2	I attempt to cut down the amount of time I spend playing online games and fail
3	I like to spend more time on playing online games rather than do assignments
4	I choose to skip classes and miss assignment dateline in order to spend more time playing online games
5	I have insufficient time to study for exam due to playing online games
6	I have lied to others to conceal the real amount time spent playing online games
7	I lose sleep due to late-night online games
8	People near me complained about the amount of time I spend on online game

9	I find myself saying just a few minutes when playing online games but, could not control myself to stop
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Table 3 listed the results of analysis done with regards to study time management. A high majority of students agreed that their study time were affected as they had poor judgement in handling their time management. The result proved the hypothesis that MMOGs do have negative effect on students' time management in studying. They had bad tendency in their time management – prioritizing their studies and their gaming activities. However, they had time to study and miss deadlines for their assignments/work given.

**Table 3: Average Percentage of Study-Time Affected and the impact caused**

#	Average	+/-ve Impact
1	67.6% agreed that they have the tendency playing online longer that originally intended	-ve
2	49.7% agreed that they tried to cut down the time spent playing games but failed	-ve
3	48.6% agreed that they spent more time playing games than do assignments	-ve
4	66.1% agreed that they did not skip classes and miss deadline due to playing games	+ve
5	52.1% agreed that they had enough time to study	+ve
6	46.6 % agreed that they did not lie to others about their gaming habit	+ve
7	47.9% had the tendency to sleep loss due to their gaming habits	-ve
8	52.9% disagreed that they had received complaints from others about their time spent for gaming	+ve
9	63.3% agreed that they had a problem in ending their gaming session once started	-ve

### Social life

For the second hypothesis (H2: MMOG brings negative impact on students' social life), another 5 questions were asked (Table 4).

**Table 4: Questions Related to Social Life**

#	Items
1	I feel more connected to my online game friends than the real world friends
2	I choose to spend more time playing online games over going out with others
3	I cannot refuse my friends invitation to play online games
4	I spend less time with my family to spend more time playing online games
5	I spend my money on buying items, gadgets or weapons in online games

For this section, a high majority of 46.8% of the students challenged the hypothesis and answered MMOGs do not bring negative impact on their social life (Table 5).

**Table 5: Average Percentage of Social Life Affected**

#	Average	+/-ve Impact
1	54.9% disagreed that they are connected to their online friends rather than their real world friends	+ve
2	54.9% disagreed that they were willing to spend more time playing games than going out with friends	+ve
3	48.6% disagreed that they can't refused invitation to play online games	+ve
4	62.3% disagreed that they spent less time with their family compared to playing games	+ve
5	53.8.1% disagreed that they spent their money on online games	+ve

### Emotion

The last segment of the questionnaire asks whether online game addiction affected negatively on their emotions. The 3<sup>rd</sup> hypothesis with regards to emotion was H3: MMOG leads to negative emotions. For this segment, another eight questions were asked (Table 6).

**Table 6: Questions Related to Emotion**

#	Items
1	I become annoyed, angry or yell if someone bothers me while playing online games
2	I feel depressed, moody or nervous when I am off-line, but these feelings go away once I am back online
3	I choose to play online games when I get stressed or to avoid thinking of life/real problems
4	I forget disturbing thoughts about my life and get relief from online games
5	I normally feel dissatisfied or moody when I got defeated by opponents in online games
6	I find that when I do not play online game, I will feel bored, empty and joyless

For this segment, a high majority of students disagreed that their emotions were easily affected negatively while playing MMOGs (Table 7). The response given proved that the 3<sup>rd</sup> hypothesis is untrue which MMOGs do not lead Malaysian students to negative emotions.

**Table 7: Average Percentage of Emotion Affected**

#	Average	+/-ve impact
1	50.7% disagreed that they easily got annoyed or angry when been bothered while playing games	+ve
2	76..7% disagreed that they tend to be depressed, moody if not online	+ve

3	76.6% agreed that they use games for stress reliever	+ve
4	59.7% agreed that playing online games abled them to forget about disturbing reality events	+ve
5	52.1% disagreed that they felt dissatisfied or moody when defeated by opponents	+ve
6	63.3 % disagreed that they felt without games, their life will be boring, empty and joyless	+ve

## DISCUSSION

The goal of this study is to investigate the effect of Internet game addiction to Malaysian undergraduate students by understanding the cognitive and psychological factors that contribute to negative outcome of playing MMOGs. So far, the finding of this study does support only one hypothesis we proposed. Our result shows that online games, specifically MMOG could effect on student's studying time. The enormous time spend on playing MMOG alleviate the time for students to do their assignments, preparing for test and classes and any activity related to academic. Somehow, this study only focused on the negative consequences on study-time not the academic achievement of students who are addicted to online games. There was a study conducted saying that the addiction to the Internet is not a significant factor of poor academic performance (Ming & Wei, 2009). But, clearly as students have less time for their education might cause their academic performance will be affected indirectly. Thus, MMOGs do bring negative impacts on students; poor time management for studying.

The next result indicates online game addiction does not act as significant factor of negative consequences on students' social life. The data gathered explained that students can enjoy their social life equally as they are happy and could enjoy the company of their virtual friends as well as their real life friends. It seems that undergraduate students can think rationally to reject the invitation to play MMOG when they need to spend time with important people in their real life. This result differs to other studies done on the effect of playing MMOGs with social life (Shang, Ming-Hui & Muh-Cherng, 2009, Young, 2004, Griffiths, 1998).

Finally, the result also eliminated the hypothesis that Malaysian undergraduate students might cause negative effect on their emotions when playing MMOGs. Majority had the ability of controlling their emotions if being bothered, or could bounce back from feeling empty if not engaged with MMOGs. Therefore, it is proven that online games such as MMOGs do not lead to bad emotions.

## SUMMARY

This paper provides insights on the impacts of online games have on players (especially on undergraduate students of Malaysia). The results showed that playing online games (either as excessive or addictive players), the students will be impacted in their reality. The positive impacts of online games are even though they acknowledged that playing online games were activities of wasting time, but students were able to complete their tasks, assignments and works required. Besides that, students agreed that even though playing online games took time socializing, but when it came to actual face-to-face socializing events, they had no problem to do so. The same goes with their emotions. Students agreed that by engaging in MMOGs, they might have a high tendency to be easily emotional, but did not affect them negatively as many mentioned that MMOGs allow them to release their stress, problems and negative surroundings.



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