

# Depression Level Comparison Between Medical Faculty Students Experiencing Addiction Online Game with No Experience Online Game Addiction

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## Abstract

Psychosocial problems, such as depression, may cause a person vulnerable to dependence on the internet. The objective of the present study is to investigate the differences in the level of depression among students of the Faculty of Medicine of online game addiction and who are not online game addiction. Participants were 78 medical student who study in medical college University of North Sumatra, the which consists of 39 students that online gaming addiction and 39 students who did not experience addiction. Depression was assessed using the Patient Health Questionnaire questionnaire 9. The association were assessed using Mann-Whitney U test (significant p value <0.05). Depression were found in 53.8 percent of the of participants and does not differ significantly between the levels of depression Faculty of Medicine students who experience online gaming addiction and who do not experience online gaming addiction.

**Keywords** : addiction, depression, game, online,

## 1. Introduction

Online games can be played through a computer, handphone and video game console.<sup>1</sup> Online games have been reported to cause behavioral addiction in some users, which affects the activities of their daily life.<sup>2</sup> In the United States, Christakis and his colleagues examine 307 students on two universities by using the internet addiction test and patient health questionnaire, reporting that 4% of pupils assessed in the range of use is problematic (problematic use internet) or addiction and identified a significant association between problematic use internet and depression from moderate to severe.<sup>3</sup>

Several studies have shown that the use of online games associated with a number of different issues. Previous studies showed that the amount of time spent playing games associated with higher levels of depression, decreased academic achievement, more alcohol consumption and behavior disorders.<sup>4</sup> In one study conducted by Hirai and Kasai found an association between the tendency to become addicted, depression and aggression is based on two surveys online.<sup>2</sup>

Use of the Internet is part of the routine of students, partly because they grew up with computers. It has been integrated into their communication habits everyday and has become a technology common as the telephone or television. From research conducted by Unnikrishnan and friends in India obtained that 65% of medical students use computers as an entertainment.<sup>5</sup> In addition, the research conducted by Siregar and Camellia found the proportion of online game addiction in students of the Faculty of Medicine of 14.3%.<sup>6</sup>

## 2. Subject and Methods

This study was approved by the Research Ethics Committee of Medical Faculty University of Sumatera Utara. The subjects included 78 people consisting of 39 students of the Faculty of Medicine who experience online gaming addiction and 39 students of the Faculty of Medicine, who did not experience the online gaming addiction. Criteria for inclusion in this study were male students Faculty of Medicine, University of North Sumatra who is still active following the third year lecture in the academic year 2014/2015 that playing online games and willing to participate in research. There were no exclusion criteria in this study. Written informed consent was obtained from all participants after giving a full explanation of the study protocol. This study use *Young's Internet Addiction Test* and *Patient Health Questionnaire 9*. This study is a cross-sectional study and executed between first February 2015 until second March 2015.

### 2.1 Young's Internet Addiction Test

Siregar and Camellia had test the validity and reliability of this questionnaire with the reliability value of 0.72.<sup>6</sup> Scale measurements on this questionnaire is a nominal scale. Measurement of online game addiction rated from 8 questionnaire online game. If the answer "yes" to five or more on the question, that person may classified as online addiction game.<sup>6,7</sup>

### 2.2 Patient Health Questionnaire 9

Patient Health Questionnaire-9 (PHQ-9) is an assessment that is self-report, which consists of nine questions

based on 9 criteria of DSM-IV for major depression. This questionnaire is also used to determine the presence or absence of depression. Its validity as a measure of the severity of the depression that was first brief published in 2001 by Kroenke and colleagues.

### 2.3 Statistical analysis

Bivariate analysis was performed to compare depressive level on students of the Faculty of Medicine between group that has online game addiction and the group that not. To assess the comparison we used Mann-Whitney U test and statistical analysis was performed using SPSS software. A significant level was considered as 5%.

### 3. Result

Characteristics of motivation playing online games are shown in Table 1.

The proportion of the highest level of depression in medical college students are mildly depressed level of 42 subjects (53.8%). The highest proportion in the Faculty of Medicine students who experience online gaming addiction is with mild depression levels of 21 subjects (53.8%) and at the Faculty of Medicine students who did not experience the online gaming addiction for 21 subjects (53.8%). From the analysis using the Mann-Whitney U test there are no significant difference between the students of the Faculty of Medicine who experience addiction online games with students of the Faculty of Medicine, who did not experience the online gaming addiction.

### 4. Discussion

In this study, motivation to play online games that majority is as a means to relax with a proportion of 33.3% in the Faculty of Medicine students who experience online gaming addiction and 74.4% in the Faculty of Medicine students who did not experience the online gaming addiction. This is consistent to research conducted by Siregar and Camellia. In the study of 77 medical students in Indonesia (2013) gained motivation playing online games as a means to relax at most 32.5%. Playing games as a means to relax is one indicator of the motif to release tension described by Farzana based on the theory of West and Turner. Motif release of tension is defined as a player needs to escape from reality, release tension, and entertainment needs.<sup>6</sup>

The proportion of depression in students of the Faculty of Medicine who play online games the most was mild levels are at 53.8%. This is consistent to research conducted by Ibrahim and his colleagues at Alexandria University (2013). The study obtained that prevalence of depression in medical students amounted to 57.9%.<sup>8</sup>

The study reported no difference in levels of depression are significant in the Faculty of Medicine students who experience online gaming addiction and who do not experience online gaming addiction. This may be due to students of the Faculty of Medicine itself has a high proportion too. This may be due to excessive work hours, competitive academic environment, lack of activities that are recreational, lack of support from peers, away from home and financial problems. Stress happens during medical school training has been documented in several literature.<sup>9</sup> Stress that usually occur include excessive workloads, lack of sleep, the patient is difficult, a poor learning environment, financial problems, information overload and career planning. These stressors often have a negative effect on academic performance, physical health and well-being of students that cause them tend to experience depression.<sup>10</sup>

### 5. Strength and Limitation

This study is a first study that had been conducted in medical college in University of Sumatera Utara. This result can be used as a screening and detect student's mental health and anticipate the next plan for student's well-being. The limitation in this study is a questionnaire that is both self-report and was not asked about stressors being experienced by the subjects.

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Table 1. Characteristics of students

Characteristics	Students of the Faculty of Medicine	
	<i>Online Game Addiction</i> (n=39) n (%)	<i>Do Not Online Game Addiction</i> (n=39) n (%)
<b>Motivation for Playing Online Game, n (%)</b>		
1. Facility Emotions	11 (28,2)	4 (10,3)
2. Means of Obtaining a Friend	8 (20,5)	3 (7,7)
3. As Means to Relax	13 (33,3)	29 (74,4)
4. Want to Have a Strong Status / Great in the World Game	2 (5,1)	0 (0)
5. Want to Compete / Challenging Other players	2 (5,1)	2 (5,1)
6. Want to Optimize Characters Who Played	0 (0)	0 (0)
7. Part of the Community	2 (5,5)	2 (3,6)
8. Want Got New Knowledge of the Game	1 (2,6)	0 (0)
<b>Time to Play Online Game</b>		
1. < 3 hours		
2. ≥ 3 hours	4 (10,3)	32 (82,1)
	35 (89,7)	7 (17,9)
<b>Types Genre Online Game plays, n(%)</b>		
1. <i>Sports</i>	5 (12,8)	9 (23,1)
2. <i>Role Playing Games</i>	19 (48,7)	14 (35,9)
3. <i>First Person Shooter</i>	6 (15,4)	9 (23,1)
4. <i>Action</i>	1 (2,6)	1 (2,6)
5. <i>Board Games</i>	5 (12,8)	2 (5,1)
6. <i>Adventure</i>	0 (0)	2 (5,1)
7. <i>Real Time Strategy</i>	2 (5,1)	2 (5,1)
8. <i>Arcade</i>	1 (2,6)	0 (0)