Personality traits in online game addiction in Denpasar

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Abstract

Background: One type of psychiatric disorder that is still controversial is online game addiction. A massively multiplayer online role-playing game (MMORPG) has the highest prevalence of game addiction, especially in Asian countries. The goal of this study was to see the correlation between personality traits, openness, conscientiousness, extraversion, agreeableness, and neuroticism with the occurrence of online game addiction.

Methods: A cross-sectional study was conducted on 248 adult online games players throughout Denpasar through proportional stratified random sampling randomization by searching for online game addiction status based on Indonesian Game Online Questionnaires' (IGOQ) and Five-Factor Personality Traits based on the International Personality Item Pool (IPIP NEO- PI).

Results: The prevalence rate of online game addiction in online game center players in Denpasar obtained 27%, the majority are students, male, Hindu, Bali. On average, playing more than 35 hours a week and playing more than 12 hours in 1 session. From the analysis of personality traits, it was found that the traits of conscientiousness had a protective relationship between the occurrence of online game addiction with adjusted Odd Ratio was 0.895 ($p < 0.001$).

Conclusion: Personality traits tests focused on trait conscientiousness can be used as a screening for potential addictions.

Keywords: *OCEAN, personality traits, online game, addiction*

Introduction

Human has the ability to think, feel, and behave, that is unique and different from one another. This ability is primarily believed to be behavior that is not random but has typical patterns determined from personality traits. A major catalyst of the rapid research on personality in the last decade is the growth of consensus on personality traits models that explain personality dimensions into five dimensions called Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness and Conscientiousness (C). The Personality Traits model developed lexically is known as the Big Five Model.¹

One type of psychiatric disorder that is still controversial is online game addiction. Online game addiction is still considered to be included as one of the addictions, not due to a substance or better known as a behavioral addiction. This is due to the consideration of the similarity of the effects on the brain of a substance-addicted individual and addicted to online games.² However, there are different opinions where online games are considered as variations in normal behavior or just a factor that accompanies the presence of other psychiatric disorders such as depression, social phobia, or anxiety disorders.³

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Knowledge of personality traits on online gamers is also important information for the producers to create online games.⁴ A massively multiplayer online role-playing game (MMORPG) has the highest prevalence of addiction, especially in Asian countries. Research shows the harmful effects of addiction are mainly on adolescents, the age group of most online gamers.⁵

Indonesia, with online gamers amounted to 6 million people in 2010 and is estimated to increase 33% every year, certainly has the potential for large adverse impacts as well. This study aimed to discover the personality traits of adolescents who experience online game addiction.

Materials and Methods

This is a descriptive correlational study with a cross-sectional study approach to determine the relationship of personality traits with online game addiction. The research sample is online gamers at Denpasar online game center from December 2013 to January 2014.

In this study, two measuring devices are used. First is the online game addiction measurement tool. To determine the existence of online game addiction, the Indonesian Online Game Addiction Questionnaire is used, which was constructed in 2013. This test consisted of 7 question items constructed from pathological gambling criteria in DSM-IV.

The second one is the NEO-PI measurement tool for personality traits. NEO-PI (Five-Factor Model of Personality Measurement tool) is a tool that measures five dimensions or domains of personality as well as a number of more important traits that explain each dimension. This measuring instrument is a measuring tool suitable for use in many populations. Unlike measuring devices developed for students, NEO-PI is known to be suitable for all ages over 18 years.

Research data were recorded in research sheets and processed with the help of computers using Statistical Package for the Social Sciences (SPSS) edition 16 and displayed in tables, graphs, and narratives.

Results

Based on the results obtained from questionnaires filled out by participants, we obtained 248 respondents (Table 1).

Table 1. Characteristics of the subjects.

Variables	Addicted N=68	Not addicted N=180	p
Sex			0.741
Male	64 (94.1)	172 (95.6)	
Female	4 (5.9)	8 (4.4)	
Age (years), mean±SD	20.54±2.74	20.74±2.78	0.550
Education			1.000
Junior high	10 (14.7)	27 (15.0)	
High school	53 (77.9)	138 (76.7)	
Diploma	1 (1.5)	7 (3.9)	
University	4 (5.9)	8 (4.4)	

We found that 68 (27.42%) of the subjects were online-game addicted, and the remaining 180 (72.48%) were not addicted.

Table 2. Motivations and restrictions.

Variables	Addicted N=68	Not addicted N=180	p
Motivation, n(%)			
Achievement seeking	18 (26.5)	49 (27.2)	0.006
Sociability	7 (10.3)	29 (16.1)	
Immersion	9 (13.2)	4 (2.2)	
Sensation seeking	15 (22.1)	4 (2.2)	
Leisure boredom	19 (27.9)	94 (52.2)	
Parent's restriction, n(%)			
Yes	26 (38.2)	85 (47.2)	0.204
No	42 (61.2)	95 (52.8)	

In terms of motivation to play, there is a significant difference between groups of addicted to online games and not addicted (Table 2). There is no significant difference in terms of restrictions on play by parents. In the addiction group, there were 26 people (38.2%) who are restricted from playing, and the remaining 42 people (62.8%) are not restricted. We then used the bivariate analysis to each personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) as independent variables with online game addiction as a dependent variable. The results can be seen in Table 3.

Table 3. Bivariate analysis of the relationship between personality as an independent variable and addiction to online games as a dependent variable.

Personality traits	B	Unadjusted Odds Ratio	CI 95% OR Low High	p
Openness	-0.006	0.994	0.963 .026	0.694
Conscientiousness	-0.940	0.911	0.880 0.943	<0.001
Extraversion	-0.190	0.981	0.952 1.011	0.211
Agreeableness	-0.180	0.982	0.982 1.013	0.249
Neuroticism	0.046	1.047	1.018 1.076	0.001

From this bivariate analysis, we found that two traits had a significant value conscientiousness ($p < 0.001$) and neuroticism ($p = 0.001$). We then carried out the multivariate analysis between personality traits and online game addiction, after being controlled with playing motivation variables and parents' restrictions (Table 4).

Table 4. Multivariate analysis of the relationship between personality traits as independent variables with addiction to online games as bound variables after being controlled by variables in motivation to play and parent limitation.

Personality traits	B	Adjusted OR	CI 95% OR Low High	p
Conscientiousness	-0.110	0.895	0.856 0.936	0.000
Extraversion	0.023	1.024	0.981 1.068	0.278
Agreeableness	0.038	1.039	0.995 1.085	0.084
Neuroticism	0.021	1.021	0.985 1.059	0.260

Conscientiousness shows an adjusted OR of 0.895 and a negative B value, which means that every time an increase of 1 unit of conscientiousness scale will reduce 0.895 times the possibility of online game addiction. In other words, every 10 units increase in conscientiousness will reduce 8.95% the possibility of online game addiction.

tiousness scale will reduce the risk of online game addiction by 8.95 times.

Discussion

The prevalence rate of online game addiction in online game center players in Denpasar is 27%. This figure is somewhat similar to a study by Achab et al.⁶ We found similar findings that conscientiousness is the personality trait that is most closely related to the tendency to play online games.⁷ In this study, we found that neuroticism is only indirectly related to online game addiction. This may be due to the small proportion of the women subjects in the study. In theory, women have higher levels of neuroticism.⁸

This study is the first study that taking proportional samples from all online game centers in Denpasar city. There needs to be further research specifically on the group of female online game players, including its links to Axis I diagnosis comorbidities such as depression and anxiety, which are strongly associated with this trait neuroticism. The connection with the extraversion trait in this study is not found to be associated with online game addiction. This may need to be explored further because the sample used here is from the player settings in the online game center.

Conclusion

The prevalence of online game addiction in adult players at online game centers throughout Denpasar is 27%. Conscientiousness trait has a protective relationship against online game addiction.

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