

# Relationship evaluation between sensation seeking and online gaming addiction disorder in Iranian youth adults (ages 18-30 years)

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## ABSTRACT

This study aims to evaluate the relationship between sensation seeking and online gaming addiction disorder in Iranian youth adults of 18-30 years old. Research method was correlation- descriptive and statistical population included total of Iranian youth adults of 18-30 years old who have background of online gaming. Cochran's formula for sampling used; therefore, sample size calculated as 384 who selected by random sampling method. The data collection tools consisted of Internet Gaming Addiction Disorder Questionnaire and Zuckerman Sensation Seeking Scale. In regards to standardization of the questionnaires, their validity and reliability were confirmed. However, validity and reliability of the questionnaire have been assessed in the current study. Assessment of normality of the distribution of variables performed by Kolmogorov-Smirnov test, and Pearson Correlation test and simultaneous Multiple Regression Model were used for research hypothesis testing. Statistical analysis was performed by SPSS software version 18. Findings indicated that there is a significant, positive correlation between sensation seeking and gaming online addiction disorder in youth adults of 18-30 years old. Sensation seeking variable determined 36% of the variance of addiction disorder to online gaming.

**Key words:** sensation seeking, online gaming addiction, youth.

## Introduction

Internet addiction is a wide-spreading structure that include types of addiction to internet use (e.g., addictive download, excessive use of sites and social media, and addictive shopping online) and gaming online [1]. Internet addiction, in general, and social media addiction and gaming online addiction, in particular, associated with wide variety of disorders including psychological, functional, and even physical health disorders [2]. Many of researches have been indicated by internet widespread, excessive internet use can lead to problems like addiction and dependence [3]. Even internet addiction was defined as 21<sup>st</sup>-

century epidemic that prevalence varies from 3% in US to 18.33% in UK [4]. Online gambling addiction considered as obsessive, excessive, uncontrollable and destructive mentality and physically behavior [5]. Online gambling addiction defined as following: excessive use and impulsivity of online gambling somehow lead to social and emotional problems and despite of these concerns, person can't control excessive use of online gambling. Internet gambling has become widespread in regarded to introducing people to the internet, ways to speed up internet, as well as entity of high-speed internet connection ways, such as Wireless and ADSL [6]. Depending on influence disturbing usual activities, Online gambling disorder can be mild, moderate or severe. People with less online gambling disorder, may have less symptoms and their life would be less disrupted. Those with more severe Online gambling disorder, spend more time in front of the computer and lose more job, education or relationships opportunities [7]. The effects of online gambling addiction impressed social, educational and family, as well as mental health of individuals. In this way, students and employees will spend more time on online gambling rather than doing their academic and job functions, which will eventually

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led to a decline in their performance at different levels, and society will undergo adverse impacts of this phenomenon. Hence, it is necessary to investigate factors that can be related to online gaming addiction disorder. Sensation seeking is one of the personality traits that are associated with various degrees of addiction such as, addiction to drugs and alcohol, addiction behavioral like online gaming and internet addiction<sup>[8]</sup>. Sensation seeking is one dimension of personality that have different degrees in individuals. Some are very sensation seeking, and some other of people are very slight, and some are between these two groups and it is based on the ability to get excited<sup>[9]</sup>. Sensation seeking defined as probing for excitement, and differing, fresh, recondite, emotional experiences and the desire to take physical (self-harm and hurt to others), social (appearing as a drunk driver), legislative (arrested and imprisonment) and financial risks (fired)<sup>[10]</sup>. Zuckerman (1994) defined sensation seeking as probing for, differing, fresh, recondite and new experiences and the desire to take physical and financial risks<sup>[11]</sup>. Sensation seekers start doing things differently to obtain the optimal level of excitement. They socialized with other people, not because they affect others, but seek to spark provocation<sup>[12]</sup>. Sensation seeking, therefor, is an inherited tendency to start doing an intensively activity to responses to new stimulates. Individuals with high sensation seeking are usually variety seeking, impatient, impulsivity to reward, inability to accept failure, and are generally irregular. Zuckerman believed that sensation seeking has 4 dimensions: 1) excitement and adventurous, 2) experience probing, 3) disinhibition, 4) sensitivity uniformity. Research's Mansouri and Farhadi (2019) was about computer games addiction, emotional and social anxiety with adolescent academic performance: the moderating role self-control<sup>[13]</sup>. The results of path analysis indicated that self-control has been able to modify the relationship between computer addiction and academic performance. Shamli et al. (2018) conducted a research on effectiveness of cognitive therapy based on mental conscious on online gambling addiction by mediating self-control variables and sensation seeking in male adolescents, upper secondary, Tehran, academic year 93-94<sup>[4]</sup>. In general findings indicated that cognitive therapy based on mental conscious was effective in reducing addiction to online gaming. Zarei and Gibi conducted a research on prediction of internet addiction based on emotion seeking and identity styles in students. The results showed that there is a significant negatively related to informational identity styles and obligation by addiction to internet and there is a significant positive relationship between diffused. Avoidant identity styles and addiction to internet. Tian et al. (2019) conducted a research about sensation seeking, deviation dependencies peer and online gaming addiction in Chinese adolescents: the effect of parent's knowledge<sup>[14]</sup>. The results shows that there is a relationship between sensation seeking and online gaming addiction in adolescents, and the parent's knowledge has a moderating role on this relationship.

We investigated relationship between sensation and online gaming addiction in Iranian youth adults from 18-30 years old in this current study.

## Research Methodology

The current research is descriptive-correlational analysis in terms of nature and content. In terms of the level of observation, it is the Micro-level and in terms of the extent, this study is an Extensive-research.

## Statistical population

Statistical population included total of Iranian youth adults of 18-30 years old who have background of online gaming.

## Sample size

Since accurate statistics of members of the community was not available, and based on estimates, statistical population considered a large size, therefor, to determine sample size Cochran formula was used for an unlimited population with unknown variance. Sample sized calculated 384 members, with 5% degree of sampling error and the 95% confidence level.

$$n = \frac{pqz^2}{d^2} = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

Where n is sample size and N is the population size; Z, area under the standard normal distribution at 95% confidence level; p, is the estimated proportion of an attribute that is present in the population; d, is error sampling.

## Samplings techniques

As the samples were scattered throughout the country, selected by random sampling method used to determine the samples. As questionnaire collection performed in the form of virtual method and via internet (Google Forms) and the questionnaire link propagated in different virtual groups.

## Data collection tools

The data collection tools consisted of Internet Gaming Addiction Disorder questionnaire and Zuckerman sensation seeking scale questionnaire.

## Procedure

By confirming validity and reliability of questionnaires, they were developed and distributed among primary sample. Collection of questionnaires performed via internet in the virtual groups. In this way, questionnaire was designed in the Google Docs Forms section, and questionnaire link delivered in gaming groups, and asked them to complete questionnaire, and forward them to us. Samples were non-probability to be available. Data collected, then, data entry to software SPSS version 18, and analyzed.

## Zuckerman sensation seeking questionnaire

This scale is a new tool that has been designed and prepared for the use of experts and psychologist in the setting of evaluation sensation seeking attribute. The scale suggested general description of sensation seeking attribute by evaluation four secondary factors (inventurus, Experience-seeking, disinhibition, disambiguation), and assigned 10 scales items for each factor. The scale consist of two-component points, which one of these components expressed sensation seeking value of individual and later component played a inverse function. Normalized Zuckerman sensation seeking questionnaire performed by Mahvi Shirazi (2008) in Iran [15].

### Online Gaming Addiction Questionnaire (Pontes et al., 2014):

Online gaming addiction questionnaire designed by Pontes et al. on 2014. The questionnaire consist of 20 items in a 5 points Likert scale following: (1) strongly disagree; (2) Disagree; (3) neither agree nor disagree; (4) Agree; (5) Strongly agree. Questions 2 and 9 were graded in reverse form. Total score is between 20 and 100 that shows the level of online gaming addiction. Higher the score shows severe addiction. Ponets and et al., determined cut-off score of 71 for this questionnaire. The questionnaire was translated and normalized by the researcher for the first time in Iran. For this purpose, designer's written consent was obtained.

### Validity of questionnaire

In this study, 10 people were selected among psychologists and online gaming's experts to assess the validity of the questionnaire.

CVI: in order to investigate the validity of content validity, experts determine every item related on four-point Likert scale. Points included: "not relevant", "relatively relevant", "relevant" and "completely relevant". In regards to CVI value of all items was greater than 0.79, hence, concluded that the content validity index for each item is at an acceptable level.

CVR: to determined content validity ratio (CVR) and "utility", asked the experts to assessed each item related on three-parts spectrum included; "necessary", "useful BUT not necessary", and "not necessary". As the numbers of experts is 10, acceptable minimum value of CVR is 0.62. In regards to CVI value of all items was greater than 0.62, hence, concluded that the content validity ratio for each item is at an acceptable level and necessary.

### Reliability of questionnaire

Cronbach's alpha method was used to reliability questionnaire analysis. In this way, initially distributed research tool between 30 individuals, then, collected data and analyzed by SPSS software. Cronbach's alpha coefficient was calculated equal to 0.845.

Given that acceptable value of coefficient is 0.70, then, the questionnaire has an acceptable level of reliability.

### Data analysis method

Data analysis expressed on two part; descriptive statistics and inferential statistics. Variables that measurement on levels in nominal and ordinal, described by frequency distribution chart and bar diagram, and for Variables on interval measurement level, description of them performed by measures of central tendency and mean, standard deviation, skewness and kurtosis and histogram chart. For research hypothesis testing, initially, evaluated normalized data by Kolmogorov-Smirnov test, after normalization of data, Pearson Correlation test and simultaneous Multiple Regression model have been used.

### Research Findings

Descriptive findings of frequency distribution of gender, education, field of study high school, job, and online gaming background of participants shown on table 1.

**Table 1- frequency distribution of gender, education, field of study high school, job, and online gaming background of participants**

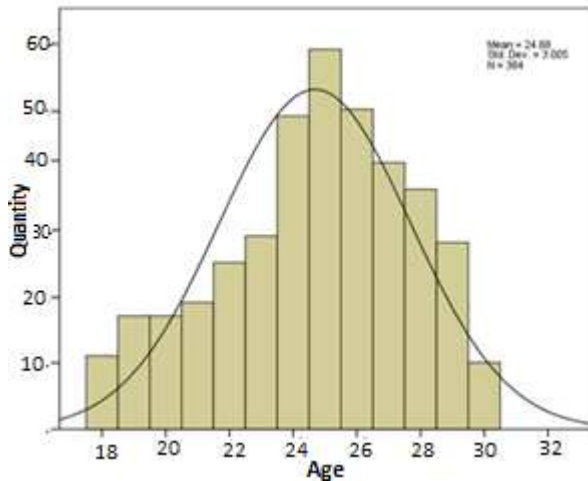
variable	Frequency	Percent	Valid percent	
Gender	male	266	69.3	69.3
	female	118	30.7	30.7
	total	384	100.0	100.0
educational degree levels	under diploma	98	25.5	25.5
	diploma	108	28.1	28.1
	Associate degree	37	9.6	9.6
	Bachelor's degree	88	22.9	22.9
	Master's degree	43	11.2	11.2
	Doctoral degree	10	2.6	2.6
	total	384	100.0	100.0
field study in high school	Mathematics & Physics	90	23.4	23.4
	humanities sciences	117	30.5	30.5
	applied sciences	110	28.6	28.6
	technical and vocational training	54	14.1	14.1
	Art sciences	13	3.4	3.4
	Total	384	100.0	100.0
Occupation	unemployed	81	21.1	21.1
	student	115	29.9	29.9
	employed	69	18.0	18.0
	Labor	31	8.1	8.1
	Self- employed	88	22.9	22.9
	total	384	100.0	100.0
Online gaming background	1-3 years	121	31.5	31.5
	4-5 years	70	18.2	18.2
	Higher than 5 years	193	50.3	50.3
	total	384	100.0	100.0

For respondents' age and online gaming addiction variables, mean, standard deviation, skewness and kurtosis and minimum and maximum indexes and its histogram chart drawn (chart 1 and 2. respectively). Respondent's age mean: 24.68 years, minimum value: 18, and maximum value is 30. Online gaming addiction mean: 67.79, minimum value: 34, and maximum value is 98, skewness and kurtosis less than 1 that indicated it is

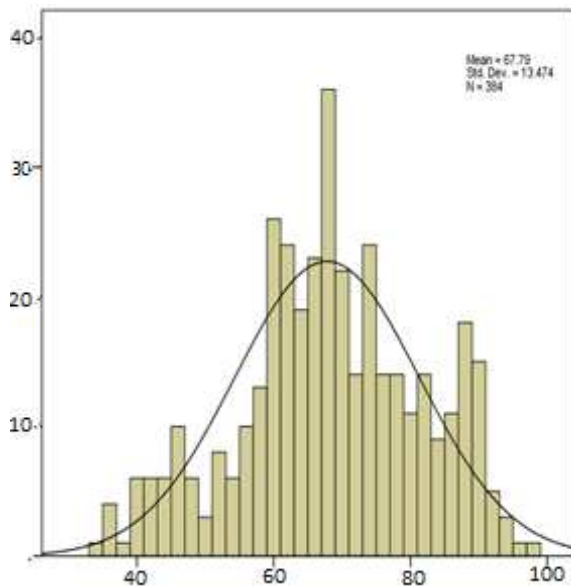
not much different between the normal distribution and variable distribution (table 2).

**Table 2: descriptive indicators of age and online gaming addiction**

variable	frequency	mean	Standard deviation	Skewness	kurtosis	minimum	maximum
age	384	68.24	3.01	-0.39	-0.55	18	30
online gaming addiction	384	79.67	13.47	-0.02	-0.04	34	98



**Chart 1- histogram chart of age distribution**



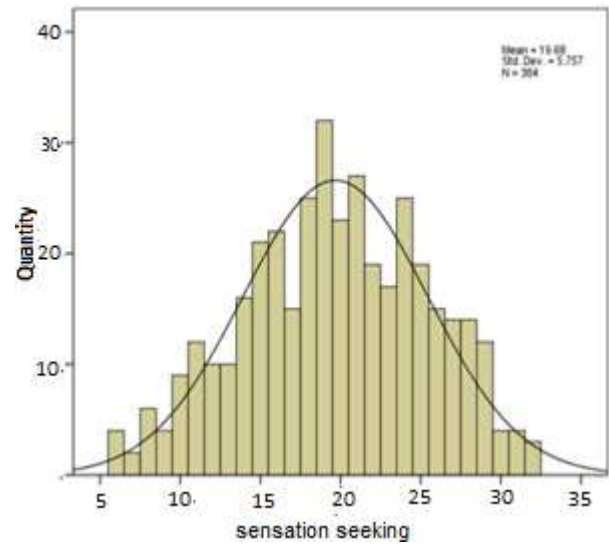
**Chart 2- histogram chart of online gaming addiction disorder distribution**

For sensation seeking variable, mean, standard deviation, skewness and kurtosis and minimum and maximum indexes and its histogram chart drawn (chart 3). Sensation seeking mean: 19.68, minimum value: 6, and maximum value is 32. skewness and kurtosis less than 1, that indicated it is not much different

between the normal distribution and variable distribution (chart 3).

**Table 3- descriptive indicators of sensation seeking**

variable	frequency	mean	Standard deviation	Skewness	kurtosis	minimum	maximum
Sensation seeking	384	68.19	76.5	-0.14	-0.57	6	32



**Chart 3- histogram chart of sensation seeking distribution**

Kolmogorov-Smirnov test was used to assess the normality of the variables distribution. Based on significance values, it is concluded that all variables have a normal distribution (significance value greater than 0.05) (Table 4).

**Table4- results of Kolmogorov-Smirnov test to evaluate normality of the variables distribution**

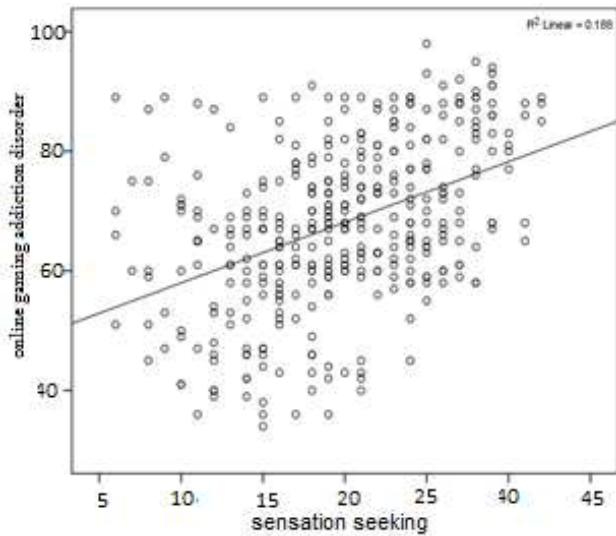
variable	Frequency	Kolmogorov-Smirnov	Sig.
Online gaming addiction disorder	384	1.075	0.214
Sensation seeking	384	1.175	0.126

Pearson correlation test used to assess relationship between sensation seeking and online gaming addiction disorder in Iranian youth adults from 18-30 years old. Results shown that Pearson correlation coefficient equal to 0.43, and significance is 0.001. Given that significance of Pearson test is less than 0.05, therefore, there is a significant positive relationship between sensation seeking and online gaming addiction disorder in Iranian youth adults from 18-30 years old (table 5).

**Table 5- results of Pearson correlation test to evaluate relationship between sensation seeking and online gaming addiction disorder**

variable	Pearson's correlation test	online gaming addiction disorder
	Correlation coefficient	0.433
Sensation seeking	Significance	0.001
	frequency	384

Chart 4 shows the distribution of the relationship between sensation seeking and online gaming addiction disorder.



**Chart 4-** distribution chart of the relationship between sensation seeking and online gaming addiction disorder

Multiple linear regression simultaneous used for prediction test of sensation seeking in online gaming addiction disorder in Iranian youth adults from 18-30 years old. Multiple correlation coefficient and coefficient of determination were 0.60 and 0.36, respectively. In this model, sensation seeking variable determined 36% of the variance of addiction disorder to online gaming in Iranian youth adults from 18-30 years old. One of the regression hypotheses is that the criterion variable is not self-correlated and the errors are independent of each other. This condition measured by Durbin-Watson Test. Durbin-Watson value equal to 1.71, as the value is between 1.5-2.5, hence, resulted that the criterion variable is not self-correlated and the errors are independent of each other (table 6).

**Table 6- correlation and Durbin-Watson Test to effect on sensation seeking on online gaming addiction disorder**

Durbin-Watson	Standard error	Modified Determining coefficient	Determining coefficient	Multiple correlation coefficient
1.707	10.851	0.351	0.356	0.597

F test used to evaluated existence the linear relationship between criterion variable and predictor variables. Significance of F test is 0.001. Given that Significance is less than 0.05, therefor it shows there is the significant linear relationship between criterion variable and predictor variable (table 7).

**Table 7-linear relationship significant test to effect on sensation seeking on online gaming addiction disorder**

	sum of squares	Degree of freedom	Average of squares	F-value	Sig.
regression	24763.056	3	8254.352	70.062	0.001
residual	44769.691	380	815.117		

total	69532.747	383
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## Discussion and Conclusion

Current results indicated that among the total sample, 69.3% were male, and 30.7% woman, 25% under-diploma, 1.28% high school diploma, 6.9% associated degree, 22.9% bachelor's degree, 11.2% master's degree, 2.6% doctoral degree of educational degree levels, 23.4% Mathematics & Physics, 30.5% humanities sciences, 28.6% applied sciences, 14.1% technical and vocational training, and 3.4% Arts and Science of field study in high school. As well as, 21.1% unemployed, 29.9% student, 18% employed, 8.1% labor, and 22.9% were self-employed. 31.5% of them have 1-3 years background of online gaming, 18.2% 4-5 years, and 50.3% higher than 5 years. Averages age of participants equal to 24.68, lower age and upper age were 18 and 30 respectively, and average online gaming addiction disorder equal to 67.79, lower value and upper value were 34 and 98, respectively. Average sensation seeking was 19.68, lower, 6 and upper value was 32.

There is the significant positive association between sensation seeking and online gaming addiction disorder in Iranian youth adults from 18-30 years old.

Results of current study are consistent with findings obtained from researches of Gibi and Zareie (2018), Darasian salmasi and Rezakhani (2018), Afshak and Karami (2018), Hajkhodadi et al. (2014), Tian et al. (2019), Mehroof and Griffith (2010) [14-20]. Based on the results, can be suggest that sensation seeker need to have various and new experiences, as well as, Variety seeker and probing for attractive and excitement experiences seen in the individuals, on the other, exciting, fresh and variety of online programs, are the factors of attract persons to internet. In fact, internet has unique features that it can be attracts sensation seekers. Many theories have been proposed on internet addiction. In point of behavioral-cognitive approach, symptoms of internet addiction disorder included, obsessive thoughts about the internet, impulse control disorder, inability to stop using the internet, and foremost, the belief about that, the internet is a best friend on person. According to behavioral approach, rewards received from the internet can be included organization of virtual friendships, and virtual communities by user, that lead to return to environment and support this action in the person. On uses and gratifications theory, social need (conversation and interactions to others) is factor of attracting audiences on media. Internet addicts seek to discover communications beyond from limited social relationships in the real world that they want to inter to virtual environment of the internet, and seek to establish communications that are independent of real world restrictions. Fall in to the habit is enjoyable and addictive for them [16].

Given that the development of online games, some online games may cause to communication formation between people in over the world. In this way, people can use this platform for



communication and friendships beyond borders, which in turn provides variety and excitement to the individual. Findings indicated that sensation seeking effect on online gaming addiction. Those who are more excited and risk tolerant compared than others, the internet environment and online gaming will be more excitement for them, and more willing to discover more unknowns, and respond to the need by excitement online gaming. Sensation seeking variable determined 36% of the variance of addiction disorder to online gaming in Iranian youth adults from 18-30 years old. As well as suggested that sensation seeking can be predict online gaming addiction disorder between Iranian youth adults from 18-30 years old. The result is consistent with findings obtained from researches of Sanadaji et al. (2015), Stavropoulos et al. (2015), Gheibi and Zareie (2018), Darasian Salmasi and Rezakhani (2018), Afshak and Karami (2018), Hajkhodadi et al. (2014), Tian et al. (2019), Mehroof and Griffith<sup>[14, 16-20, 22]</sup>. To explain the above finding, it is possible to say that main feature of online gaming addiction is the excessive and impulsive use of game, so that leads to social and emotional problems, and in spite of these concerns, the person is unable to control his excessive behavior.

Wo (2014) believed that online gaming addicts, have less ability to control their excitements<sup>[23]</sup>. These people usually have interpersonal conflicts and have problems to recognize and control their emotions. In fact, the obvious signs of behavioral disorder such as internet addiction and online gaming addiction disorder in persons, are inability to control the excitements, emotions and behaviors. Addicts seem have less ability to control their emotions and feelings (sensation seeking) rather than usual users. As well as, deficiency to postponement temptation on online gaming, and inability to control impulse, are obvious features of people with online gaming addiction. Hence, based on findings of current study, sensation seeking can be predicted online gaming addiction disorder in Iranian youth adults from 18-30 years old.

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