



ORIGINAL ARTICLE

Internet Addiction among Students: the Relation of Self-esteem and Depression

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ABSTRACT

Since problematic internet use has long been a matter of public concern. The purpose of this study was to evaluate prevalence of internet addiction and its relation with depression and self-esteem. This study is descriptive - correlation, 408 students (258 males and 150 females) were chosen by multi - step cluster sampling. The tools of measurement were the Young internet addiction, cooper-smith self-esteem and Beck depression questionnaires. The data were analyzed by t- test, regression by SPSS 11.5. The results showed that 40/7% of the students were addicted to the internet included 2.2% sever addicted and 38.5 moderate one. Both depression and self-esteem were in relation with internet addiction so that the score of depression and self-esteem could anticipate the score of internet addiction to some extent. According to depression and self-esteem are two main causes and amplifiers of internet addiction, they should mainly be considered to recognize and treat in internet addiction

Keywords: Internet addiction; self-esteem; depression; students

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INTRODUCTION

One of the important features of modern society is the increased effect of online communication tools, especially the Internet, on people; there is no doubt that this effect is higher on young people than other ones in society [1].

Recent studies have shown that the number of Internet users is growing every day. In 1981, about 66 million people in the United States had access to the Internet and in 1991 their number reached 83 million people; in addition, the increased percentage was 125.6 in the United States from the year 2000 to 2007 [2]. According to the report of Iranian Ministry of Information and Communication Technology (ICT), the number of Internet users is constantly increasing. The results of research show that young people use the Internet more than other age groups [3]. Despite the fact that this new communication tool has positive aspects (access to the updated sources, being informed of research and results, the possibility of communication between researchers, etc.), it has the detrimental effects, and the psychologists have introduced a new kind of addiction called the Internet addiction or virtual addiction [4].

Excessive use of Internet has been discussed with different concepts by several researchers. Ivan Goldberg introduced the problem of addiction to the Internet for the first time in 1995, and in 1996, Young raised the problematic behavior of Internet and investigated whether using the Internet can be addictive or not [5, 6], and recently Kaplan has raised an interesting psychological model for Internet addiction [7].

Internet addiction or behavioral dependency on the Internet, regardless of whether it is considered as a behavioral disorder, mental impairment, or social problem, is a chronic, recurrent, and pandemic phenomenon which is associated with serious physical, financial, familial, social and mental losses. American Psychiatric Association has defined the internet addiction as a pattern for using the internet which can cause dysfunction and unpleasant internal reactions during a period of two months, and has provided seven criteria for its diagnosis (at least three criteria during two Months): 1 - Tolerance, 2 - Withdrawal symptoms, 3 - The duration which people use the Internet is more than the time they initially planned to, 4 - Constant desire to control the behavior, 5 - to spend considerable time for matters related

to the Internet, 6 - Reduction of social, occupational and recreational activities by using the Internet, 7 - Continued use despite the knowledge of negative effects [8].

Recent studies about the internet addiction have focused mainly on three factors which include the personal factors, psychological - social factors, and factors related to the Internet. The personal factors are such as the low-grade self-reliance, introverted characteristics, instinctive behaviors, immediate tendencies, and deficiencies in communication skills. The social psychological factors include the social factors such as poor support from the family members and ... which are originated from the poor communication among the family members. And finally, the factors related to the Internet, such as long-term use of Internet, quick and easy access to it, and having high skills in using it, which all play important roles in the internet addiction [9].

One of the basic individuals' psychological needs in all scientific and ethical levels and degrees is the need to have a certain amount of self-esteem. Self-esteem is as a positive or negative individuals' attitude towards themselves and their overall assessment of self-value sense. The more, people fail to achieve self-esteem, the more they will be undergone the anxiety, depression, emotional insecurity, suspicion about themselves, escaping from the reality, and feeling of inadequacy. High self-esteem in an individual creates the sense of self-confidence which enables him to adapt to difficult situations [10].

The relationship between the Internet addiction and self-esteem has been reviewed in several studies which have shown the personality traits, self-esteem, and psychiatric disorders associated with the Internet addiction [11, 12, 13 and 14].

Based on the viewpoint of relationship between using the Internet and users' psychological behaviors, the addicts often feel lonely, tend to play violent games, and have a high tendency to suffer from depression [15]. Several studies have reviewed the relationship among the Internet addiction and adolescents' psychological characteristics including depression [16], anxiety, disappointment [17] and social behavior, loneliness, depressing mood and Impulsiveness [18]. In these studies, the Internet addicts showed the depression symptoms caused by the reduction of self esteem, and fear of rejection; and whenever the Internet is able to meet these demands, they will increase their use.

Since the low self-esteem is important in terms of conceptual and empirical understanding of rejection, withdrawal or people apathy [19], the low self-esteem can predict the Internet addiction. Therefore, the low self-esteem and depression can be considered as a major feature which can predict the potential for problematic use of Internet.

Internet addiction has been found important as a new and increasing global problem. The consequences of Internet addiction for addicts including changing the lifestyle in order to spend more time on the Internet, neglecting their own health, avoiding of major life activities, reducing the social relations, ignoring the family and friends, financial problems caused using the Internet, and their dimensions should be considered. In the present study, young people have been considered as the statistical population because they use the Internet more than the rest of people in the society and have an important role in the society. This study aims to evaluate the epidemiological study of Internet addiction and its relation to depression and self-esteem.

METHODOLOGY

This is an applicable research which has the descriptive –correlation type. 408 people of 7730 educating students (4,601 male students and 2,729 female students) in the Islamic Azad University of Birjand were studied through the stage cluster sampling in the academic year 87-88.

In this study, three questionnaires have been used in order to measure the research variables as follows:

A) Young 20-question test about the diagnosis of Internet Addiction: usually two questionnaires of internet addiction with 8 and 20 questions are used in most of the researches about the diagnosis of internet addiction. Young's 20-question questionnaire was used in this study due to making a less ambiguity in the subjects and measuring the aspects and depths of problem better; and it was graded from 1 to 5. In the Internet Addiction Test (IAT), the reader should answer to each of 20 questions based on the five-degree Likert scale including never, rarely, sometimes, often or always. The test scores range from 0 to 100 and the higher score indicates the greater Internet dependency and more severe problems which have been made for individuals as it is used excessively. The Young's instruction has been used for evaluating the obtained score; it means that the score from 20 to 49 indicates the normal user, from 50 to 79 indicates the user who is at risk, and from 80 to 100 indicates the addicted user. By implementing the IAT in Sweden, the Cronbach's alpha is obtained 95%. In a study in Korea, the Cronbach's alpha is higher than 0.9, and 0.85 in another study. In addition, by implementing the 20-question internet addiction test (IAT) by Ghasemzadeh and colleagues (1386) in Iran, the Cronbach's alpha was calculated 0.883 and by Nasti Zai [20] was calculated 0.81.

B) Beck Depression: Beck Depression Inventory (BDI) Short Form; this questionnaire is a 13-question self-reporting scale which measures the depression. Each question has four options which are graded from zero to three; the internal consistency coefficient of this questionnaire in the normal community has been reported 0.81 . Rajabi [21] has reported the coefficients 0.89 for its internal consistency.

C) Coopersmith Self-Esteem Test: This scale was developed by Coopersmith [22]; He provided the self-esteem scale based on the review in the previous resources. This is a 58-article, self-reporting, paper and pencil scale. 8 articles of this scale are lie detectors and other 50 articles are divided into 4 subscales including the general self-esteem, social self-esteem (peers), familial self-esteem (parents), and educational self-esteem (school). Coopersmith [22] calculated the reliability coefficient of this scale 0.70 using the retest method after 5 weeks. In a research conducted by Shokr-kon and Neicy [23], the reliability coefficients were reported 0.90 for girls and 0.92 for boys by the retest method. Moreover, in another study, the reliability of this scale was obtained 0.71 and 0.77 respectively, using the Cronbach's alpha coefficients method and Guttman's split half technique. The validity coefficient of this scale was confirmed by multiple studies [23].

Statistical descriptive and inferential methods (T-test, a one-way and two-way analysis of variance, and Tukey's pursuit test and regression analysis) were used for data analysis.

RESULTS

36.8% of students were female and 63.2% male. 6 students (2.2%) had severe levels of Internet addiction, 38.5% had medium Internet addiction, and (59.3%) had no Internet addiction. (Table 1)

Table 1: Frequency distribution of Internet addiction in students

The severity of Internet addiction	Frequency	Percent
No Internet addiction	242	59.3
Medium	157	38.5
Severe	9	2.2
Sum	408	100

By comparing the Internet addiction in male students 16.41 ± 23.44 with female students 18 ± 29.76 , the average difference was 3.54, and the mean score of Internet addiction in girls was significantly lower than boys ($p \leq 0.01$) (Table 2).

Table 2: The rate of Internet addiction in male and female students

Gender	Total	Mean	Standard deviation	Df	t	P
Female	150	23.42	16.41	406	3.54	0.01
Male	258	29.76	18			

Results of multivariate regression analysis showed that the depression and self-esteem scores could significantly predict the Internet addiction scores (Tables 3 and 4).

Table 3: Multivariate regression of depression and self-esteem predictor variables

predictor variables	R correlation	Squared correlation R^2	Adjusted R^2	Standard error	F test	F Significance
Depression	0.31	0.09	0.098	16.82	43.72	0.001
Self-esteem	0.33	0.118	0.115	16.73	24.89	

According to the table above, the correlation coefficient of Internet addiction and depression score is 0.31; and the score of depression can predict about 10% of Internet addiction score. In addition, according to the above table, the score of depression can significantly predict the Internet addiction score. By adding the Self-esteem variable to the regression equation, the determination coefficient will be 11%. It means that the self-esteem increases the predictive power of Internet addiction score by 1%; and the correlation of these variables is 0.33 with the score of Internet addiction. According to the above table, it can be concluded that the ratio of regression variance to error variance is significant. It means that the Self-esteem variable is significantly involved in the regression line.

Table 4: Regression analysis of predictor variable and criterion variable

predictor variable indicator	slope of line	Standard error	T-test	Significance t
Depression	0.31	0.12	0.61	0.001
Self-esteem	0.45	0.91	-2.36	

The table above shows that the calculated t is significant in $p < 0.001$. Thus, it can be concluded that the ratio of slope, which is determined by the depression factor, to the standard error is significant. In addition, it can be concluded that the ratio of slope, which is determined by the self-esteem factor, to the standard error is significant; but the Internet addiction score has inverse relationship with the self-esteem score.

DISCUSSION AND CONCLUSION

According to the obtained results in this study, the prevalence of Internet addiction in students was 40.7% of which 2.2% had severe addiction, and 38.5% had medium internet addiction; and it is considered as a high figure according to the previous researches conducted in Iran and abroad. In a study conducted by Moayyedfar and colleagues [3] which was done on the Internet users with age range from 15 to 25 years in Tehran city, the results showed that totally 26.8% of Internet users were Internet addicted [3]. In addition, according to the studies conducted about Internet addiction in China, Taiwan, Hong Kong and Korea, 12.15% of Young people on average were suffering from the Internet addiction [25].

The research results show that using the Internet is more common in young people than other age groups, and educational places such as high schools and colleges are good places for Internet addiction [26].

Moreover, Tesay [27] has considered the high school students and university students as the age groups who are at risk. This issue can be partly related to the special characteristics of these adolescence ages and its crises, their attitude to the usefulness of Internet, and increasing tendency for using it, which all can be the underlying factors for their tendency to Internet addiction [27].

According to the reported statistics, every year the prevalence of Internet addiction is higher than previous year; in addition the intense addiction to Internet in Birjandi students is higher than usual and the world statistics. This above statistic can be due to small city and lack of recreational facilities as well as the indigenous students who are in the majority. In addition, because of the easy connection by internet and attraction of connection between girls and boys, most of students use the Internet.

The findings related to the self-esteem and depression caused by the Internet addiction also showed that after depression, the self-esteem has the most relationship with the Internet addiction, so that by increasing the self-esteem variable, the predictive power of Internet addiction score went up and eventually the correlation of self-esteem variable and depression with the Internet addiction was 0.33.

In the other words, based on the above findings it can be noted that there is a positive and significant relationship between depression and Internet addiction, but a negative and significant relationship between the self-esteem and Internet addiction. This means that students with higher Internet addiction have lower self-esteem and higher depression.

In the study conducted by Ming Lee [17] by comparing the internet addicts with healthy ones in high schools in Taiwan, the results showed that the addicts had low self-esteem and depression and were shy and reclusive than healthy people [17]. Numerous studies have shown the relationship between Internet addiction and self-esteem [2, 28, 29, and 30].

Griffith [13]) has provided important findings for discovering this field. Based on the Griffith's view, excessive use of Internet is greatly related to the users' perception as a way for dealing with and for compensating some of the shortcomings such as low self-esteem. Based on the Griffith's view, the Internet allows them to feel better, have a desire to create and develop the social identity, and have different character and more self-satisfaction. People, who evaluate themselves by negative methods, may consider the internet as a way for compensating this lack and increase their use [13].

The findings of this study showed that users addicted to Internet have higher depression than ordinary users. In various studies conducted by [31,32], Yen and colleagues [33], Jey and colleagues [34,35] and Kiyom and colleagues [36]. it was indicated that prevalence of depression is higher in Internet addicted users than the ordinary users..

The exact cause of the relationship between depression and Internet addiction is not known. Perhaps depression, as a mental impairment, predisposes the individual to suffer from the Internet addiction. Some people use Internet in order to reduce their depression so that Internet may provide an alternative to a life without joy for depressed ones. Similarly, depression may occur as a result of Internet addiction,

it means that people who are addicted to the Internet, experience the negative consequences such as depression, and this subject requires further studies. Thus, the Internet addiction can be treated better by considering the underlying causes and its consequences such as depression, isolation, low self-esteem, and anxiety; and according to the cognitive theory of Internet addiction, we can prevent this problem.

In addition, the results of study showed that the Internet addiction was higher in male students than females. And this was in line with the results of studies conducted by Young, and Chayn and colleagues who indicated that there is the gender gap in addicting to Internet [5, 37, and 6].

Since, the girls are more successful in friendship relationships in social field than boys, perhaps for this reason boys have more free time for using the Internet and have more emotional lacks; in addition, the sexual Websites, which have instinctively more attraction for boys than girls, are the other reason why boys use the Internet more than girls.

Considering the problems caused by the Internet, it can be indicated that people should first recognize the addiction in order to help themselves. The first step is to identify the patterns of overusing the Internet. The awareness is an important symptom and the time spent for using the computer is the main key. Since, the prevention is prior to the treatment and according to the results of this survey, this phenomenon should be considered seriously as a health problem which is often experienced by the younger generation in the community, and also the appropriate culture and proper training should be created in families and community for the effective use of Internet.

This study also has limitations; first, because the present study was conducted at University of Birjand, the generalization of results to other regions and universities requires more studies and researches; second, because of the lack of cooperation among some of students, and their fatigue and impatience in answering the questions due to a large number of questions in the questionnaire, it will be possible to get unreal or distorted answers by subjects.

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