

Depression and Internet Dependence in Students at Islamic Azad University of Rasht

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Abstract: The Internet plays an important role in people's lives today, and its attraction has caused the youth, especially university students, to spend most of their time on the Internet. This companionship, and excessive use of the Internet, can distance the youth from their society and peers and, hence, isolate them and bring about depression and reduced mental health. The main purpose of this research was to study the relationship between depression and Internet dependence in university students. The statistical population consisted of 150 female undergraduate students selected from students at the Islamic Azad University of Rasht using multistage random sampling method. Beck Depression Inventory (BDI) and Young's Internet Addiction Test (YIAT20) were used to collect information. Results indicated there was a significant correlation between Internet dependence and depression. The significance level of $\alpha = 0.05$ was selected for all research hypotheses.

Key words: *Internet dependence; Depression; Student*

1. Introduction

This age has witnessed the spread and expanded use of mass media, including the Internet, especially in the past few decades. Along with the positive and undeniable functions and effects these mass media have offered, they have also caused psychic traumas. These must be identified and their causes determined, especially among the youth the majority of who consists of university students.

The Internet has rapidly turned into one of the necessary tools of life (Hinduja and Patchin, 2008; Farshbaf, 2009), and today the Internet is a vital device in many countries for people to find valuable information. The number of Internet users is increasing at an astonishing rate, and it was reported in December 2002 that there were 665 million Internet users in the world (Arashloo, 2006; Fitzpatrick, 2008).

The statistics regarding Iran are a little different. The number of Internet users increased by 31% between the years 2000 and 2006, and at present there are more than 11.5 million Internet users in this country (Nastizaei, 2009).

Most Internet users are young people (Elias and Lemish, 2009); and, with the widespread access of people to the Internet, we are witnessing a new type of addiction ("the Internet addiction"), which is the special problem of the information age. Like any other kind of addiction, Internet addiction is accompanied by symptoms such as anxiety, depression, bad temper, restlessness, obsessive thoughts, and fancy about the Internet. Moreover,

while the relationships of these people increase in the virtual world, the range of their relationships in the real world declines. Therefore, Internet addiction may have negative effects on the societies, jobs and occupations, education, and marital and interpersonal relationships (Freeman, 2009).

Some research has shown adolescents who avoid social contacts use the Internet as a tool to escape from reality (Campbell, 1990).

On the other hand, it must be acknowledged that this very factor of social isolation enhances Internet addiction in people (Young, 2011). With increased dependence on the Internet, the psychological status of people, which includes their mental and emotional statuses, and their mutual, educational, occupational, and social relationships, are weakened and harmed (Byun et al., 2008).

Black et al. (1999) and Shapira, Goldsmith, and Keck (2000), found in their research that problems caused by using the Internet are accompanied by other mental problems including depression, social isolation, and loneliness.

Griffiths (2000) believed that the Internet must be considered an intermediary in relation to behaviors and behavioral problems resulting from Internet use, and not a cause and effect factor (Widyanto and Griffiths, 2006).

Studies conducted on dependence (dependence of people on behaviors and harmful substances) have shown that mental illnesses such as depression are often accompanied by addiction to alcohol and narcotics. Moreover, research has indicated that other addictive activities including eating disorders and pathological gambling are also accompanied by depression. Based on results obtained from studies,

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variables such as loneliness and depression, and the effects of computer technology, are important predictors of Internet dependence, with loneliness being the most important of them. Moreover, with increases in the degree of depression in people, their problematic Internet use also increases.

Since research on Internet addiction has just started, and because predictors of this dependence, especially in Iran, have not been sufficiently studied, and due to the fact that studies by various researchers have indicated this dependence is on the rise among students in this country, this research intended to determine the relationship between Internet addiction and depression among students.

1.1. Background

Results of research by Jung (2002) showed that students who in elementary school years received a high score on Internet dependence became as dependent on the Internet as the youth, and that the greater their dependence on the Internet was the weaker the symptoms of their mental health were.

Researchers at Stanford University noticed in their research that Internet use could result in feelings of loneliness and social isolation, and that "When people used the Internet for long hours, they spent less time on their relationships with other people in real environments" (Widyanto and Griffiths, 2006).

Young (2007) studied Internet dependence and found that social isolation was a direct result of the excessive use of the Internet in close to 50% of the 369 people who were dependent on the Internet.

Morgan and Martin (2000) observed that feelings of loneliness were correlated with excessive use of the Internet among students.

Petrie and Gumn (1998) studied the relationship between Internet dependence and gender, age, depression, and introspection, and noticed that people who were dependent on the Internet suffered from high degrees of depression and were introverts.

Black et al. (1999) found in their research that 25% of Internet users who spent seven to 60 hours a week on the Internet had depression disorder.

Sajjadian and Nadi (2006) conducted research on the relationship between depression and social isolation of adolescent and young Internet users and the time they spent on the Internet. They found that there was a positive correlation between the time they spent on the Internet and depression and social isolation.

Alavi et al. (2008) noticed in their study that people who made more use of the Internet had poorer mental health.

Studies have indicated that computers and the Internet are tuning into the greatest recreational activity in the lives of the youth (Kimia et al., 2006).

Extensive use of the Internet has introduced concepts such as compulsive use of the internet (Essen and Gandogdu, 2010), abuse of the Internet (Martin quoted by Gandu), and Internet addiction (Young and Rogers, 1998).

Tonioni et al. (2012) stated that Internet abuse could cause people to avoid getting involved in social relationships for hours.

Disorders accompanying Internet addiction include issues such as substance abuse, depression, aggressiveness, social anxiety, and other mental disorders (Koa et al., 2012).

Alavi et al. (2011) conclude from their study that there was a relationship between Internet addiction and psychiatric indices (anxiety, depression, aggression, hypochondria, phobia, obsession, paranoia, and psychosis).

In this research also, it was attempted to study Internet addiction and its relationship with aggression in students.

In recent research on Internet addiction, the emphasis is on the factors that cause it. One of the etiological models introduced for this disorder points to self-regulation failure. In this theory, the person who is dependent on the Internet also suffers from psychosocial problems such as depression, social anxiety, and loneliness that make the person prone to problematic Internet use that leads to spending more time on the Internet (Tokunaga and Rains, 2010). Use of Internet-related technologies may be a source of attraction for people with social anxiety. Reduced social signals (such as visual and auditory signals), and greater control on one's interactions, are two features because of which people with social phobia prefer Internet-based relationships to face-to-face encounters. Reduced social signals decrease the risk of negative evaluations present in face-to-face encounters, and the asynchronous nature that some forms of Internet communications have allows people to have more control over their self-presentation (Tokunaga and Rains, 2010).

Research has revealed there is a relationship between Internet addiction and mental disorders such as social phobia, aggression, and depression (Yen et al., 2007; Shepherd and Edelman, 2005).

Moreover, some studies suggest people with higher levels of shyness are more likely to become Internet addicts (Kim and Haridakis, 2009).

Considering research so far conducted in Iran on various groups of Internet users, this research studied the relationship between Internet addiction and depression in undergraduate students at the Islamic Azad University of Rasht.

1.2. Methodology

The statistical population of this descriptive and correlational research consisted of all female undergraduate students at the Islamic Azad University of Rasht in the school year 2014-2015 (150 of whom, studying in the Humanities and Engineering Departments, were selected for the study using multistage random sampling, and filled the questionnaires in their usual classrooms). Statistical analysis was performed on the 150 returned questionnaires.

1.3. Tools

Young's Internet Addiction Test (IAT), developed by Kimberly Young in 1998, is one of the most valid questionnaires on Internet addiction. It is a 20-item questionnaire that uses a 5-point Likert scale in which each item receives a score of 1 to 5, with the total score varying from zero to 100. Each respondent is classified as ordinary Internet user (total score 20-49), user who is facing problems due to problematic Internet use (total score 50-79), or Internet addict who has become dependent on the Internet due to excessive use and needs treatment (total score 80-100) (Murali and George, 2007). Widyanto and McMurrin (2004) stated this questionnaire had high formal validity; and also obtained the six factors of salience, excessive use, neglect of job duties, lack of control, social problems, and effects on performance through factor analysis (all of which indicated the internal consistency and stability and validity of the questionnaire). In Iran also, Alavi et al. (2010) studied the psychometric properties of the Persian version of this questionnaire on students and obtained two categories of content and convergence ($r=0.5$) and three categories of test-retest reliability ($r = 0.79$), ($r=0.88$), and ($r=0.82$). They stated the best clinical cut-off point for the questionnaire was the score of 46; that is, if the total score received by the individual was higher than 46, that person was an Internet addict. In our research, the Cronbach's alpha value of 0.93 was obtained.

Beck Depression Inventory was employed to assess the degree of depression. This scale also has high reliability and validity, and Beck, Steer, and Garbin reported the items of the questionnaire had an internal consistency of 0.73 to 0.92 (with a mean of 0.86) (Shamsipour, 2004). In our research, Cronbach's alpha was used to determine the reliability of the depression questionnaire and its value for the whole questionnaire was 0.88, which suggested desirable reliability coefficients for the mentioned questionnaire (refer to Table 1).

Table 1: Reliability coefficients of the depression questionnaire used in the research

Scale	Values of Cronbach's alpha for the reliability coefficients
Depression	0.88
General depression	0.78
Despair-related depression	0.79
Visible emotional disorder-related depression	0.65
Negative attitude-related depression	0.34
Physical disorders-related depression	0.28

As shown in Table 1, reliability coefficients of the items of the depression questionnaire varied from 0.28 to 0.88.

2. Methodology

The necessary permits were first obtained, the questionnaires were prepared, the participants were selected using multistage random selection method, and the questionnaires were distributed and collected after were completed. The collected data was entered into SPSS ver. 18 for statistical analysis. It must be mentioned that, when the questionnaires were distributed, the students were provided with the necessary explanations and guidelines by the researchers. At the end of the research, the researchers expressed their gratitude and appreciation to the students for their participation in the study.

3. Results

Besides statistical methods (calculation of percentage frequency distribution, means, and standard deviations), inferential statistical methods (Pearson's correlation coefficient, and Cronbach' alpha for calculating reliability percentages) were used for the statistical analysis of the data. Moreover, SPSS ver. 18 was also employed to analyze the collected data. The significance level of $\alpha = 0.05$ was considered for all the hypotheses. Findings of the research are presented in the following two sections:

3.1. Descriptive findings

Descriptive findings of this study, including statistical indices such as means, standard deviations, and number of subjects for all of the studied variables in this research, are presented in Table 2.

Table 2: Means and standard deviations for the subjects in the variables of the research

Variable	Mean	Standard deviation	Number of subjects
Internet addition	30.02	12.34	150
Depression	29.97	7.28	
General depression	11.27	2.82	
Despair-related depression	10.12	3.18	
Visible emotional disorder-relate depression	5.61	1.64	
Negative attitude-related depression	4.33	1.10	
Physical disorders-related depression	3.96	1.27	

As shown in Table 2, the mean and the standard deviation are 32.02 and 12.34 for the variable Internet addiction, 29.97 and 7.28 for the general despair variable, and 10.2 and 3.18 for the despair-related depression. For the visible emotional disorder-related depression, the negative attitude-related depression, and the physical disorder-related depression, the means and standard deviations are 5.61 and 1.64, 4.33 and 1.10, and 3.96 and 1.27, respectively.

3.2. Findings related to research hypotheses

This study included the following hypotheses, each of which, together with results obtained from its analysis, will be presented in this section.

Hypothesis 1: There is a relationship between Internet addiction and depression in the students.

Table 3: The simple correlation coefficient between Internet addiction and depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	Depression	0.54	0.0001	150

As shown in Table 3, there is a significant positive correlation ($p=0.0001$, $r=0.54$) between Internet addiction and depression in the students. Therefore, hypothesis 1 is confirmed. In other words, increased addiction of students to the Internet was

accompanied by greater degrees of depression in them.

Hypothesis 1-1: There is a relationship between Internet addiction and general depression in the students

Table 4: The simple correlation coefficient between Internet addiction and general depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	General depression	0.53	0.0001	150

Table 4 indicates there was a significant positive correlation ($p= 0.0001$, $r= 0.53$) between Internet addiction and general depression in the students. Therefore, hypothesis 1-1 is confirmed. In other words, increased addiction to the Internet was

accompanied by greater general depression in the students.

Hypotheses 1-2: There is a relationship between Internet addiction and despair-related depression in the students

Table 5: The simple correlation coefficient between Internet addiction and despair-related depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	Despair-related depression	0.45	0.0001	150

As shown in Table 5, There was a significant positive correlation ($p= 0.0001$, $r=0.48$) between Internet addiction and despair-related depression in the students. Therefore, hypothesis 1-2 is confirmed. In other words, the greater the degree of addiction to

the Internet in the students is, the greater their degree of despair-related depression will be.

Hypothesis 1-3: There is a correlation between Internet addiction and visible emotional disorder-related depression in the students

Table 6: The simple correlation coefficient between Internet addiction and visible emotional disorder-related depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	Visible emotional disorder-related depression	0.48	0.0001	150

Table 6 shows there was a significant positive correlation ($p=0.0001$, $r=0.48$) between Internet addiction and visible emotional disorder-related depression in the students. Therefore, hypothesis 1-3 is confirmed. In other words, increased addiction to the Internet was accompanied by greater degrees

of visible emotional disorder-related depression in the students.

Hypothesis 1-4: There is a relationship between Internet addiction and negative attitude-related depression in the students

Table 7: The simple correlation coefficient between Internet addiction and negative attitude-related depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	Negative attitude-related depression	0.34	0.0001	150

As shown in Table 7, there is a significant positive correlation ($p=0.0001$, $r=0.34$) between Internet addiction and negative attitude-related depression in the students. Therefore, hypothesis 1-4 is confirmed. In other words, the greater the degree of addiction to

the Internet is, the greater the degree of negative attitude-related depression in the students will be.

Hypothesis 1-5: There is a relationship between Internet addiction and physical disorder-related depression in the students. Table 8 indicates there

was a significant positive correlation ($p=0.0001$, $r=0.31$) between Internet addiction and physical disorder-related depression in the students. Therefore, hypothesis 1-4 is confirmed. In other

words, increased addiction to the Internet was accompanied by greater degrees of physical disorder-related depression in the students.

Table 8: The simple correlation coefficient between Internet addiction and physical disorder-related depression in the students

Predictor variable	Criterion variable	Correlation coefficient (r)	Significance level (p)	Number of samples (n)
Internet addiction	Physical disorder-related depression	0.31	0.0001	150

4. Discussion

Results of our study conform to those found in research conducted in different cultural contexts in this area by Young (1998), Jung (2002), Patrie and Gunn (1998), and Black et al. (1999). However, our results also agree with those of research carried out in Iran by Sajjadian and Nadi (2006) and Alavi et al. (2008) who, like us, found significant correlations between Internet addiction and depression, and noticed the correlation between these two variables was stronger in men compared to women. We must note that today the worldwide Internet network is widely used by university students, and that the source of concern is problematic use of the Internet and dependence on it, because Internet dependence disrupts people's daily activities and isolates them from their societies. Moreover, Internet addiction and dependence causes people to lose their control, weakens their willpower, and increases their degrees of depression. Problematic Internet use, and dependence on the Internet, causes people to leave the very important relationships they have in their ordinary and real lives. Therefore, it is possible that considerable isolation from the society, followed by spending substantial and excessive amount of time on the Internet, will result in depression. Alavi et al. (2011) reached the conclusion that depression and degree of Internet dependence were correlated. Coa et al. (2012) also stated depression and other psychological disorders were correlated with Internet dependence. Among the main limitations of this research were that various domains related to the environment (such as gap rooms, online games, proprietary websites, social networks, etc.), which can determine the types of psychosocial problems and their degrees, were not included in the study. Therefore, it is suggested they should be included as research-related information in future studies.

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