THE RELATIONSHIP BETWEEN INTERNET ADDICTION AND ANXIETY IN THE UNIVERSITIES STUDENTS

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Abstract
The present study was conducted in order to investigate not only the prevalence of internet addiction among the girls and boys students in the universities students, but also the relationship between internet addictions with anxiety. Participants were 330 students who randomly selected from universities students. The Questionnaires of internet addiction and anxiety scale were used as instruments for data collection in this study. The data were analyzed using mean, standard deviation, T-test and regression analysis. The results of this study demonstrated that prevalence of internet addiction among boys' students in student universities was more than girls and in science and engineering students was more than art and humanity students. There was a significant difference in four groups in anxieties. The result of regression analysis showed that anxiety, sex and could significantly predict internet addiction.

Keywords: Internet addiction, Anxiety, Students, Universities.

1. Introduction
The Internet is a widely recognized channel for information exchange, academic research, entertainment, communication and commerce (Widyanto & Griffiths, 2006; Douglas et al., 2008; Byun et al., 2009). Although the positive aspects of the Internet have been readily praised, there is a growing amount of literature on the negative side of its excessive and pathological use (Beard, 2005; Frangos & Frangos, 2009). Byun et al. (2009) estimate that 9 million Americans could be labelled as pathological Internet users with unpleasant consequences for their social life,
their professional status and their psychological condition (Young, 2004; Walker, 2006). In the scientific literature, several terms have been proposed to describe pathological Internet use: Internet addiction, cyberspace addiction, Internet addiction disorder, online addiction, Net addiction, Internet addicted disorder, pathological Internet use, high Internet dependency, problematic Internet use and others (Widyanto and Griffiths, 2006; Byun et al., 2009). To date, there is neither a conclusive nor a consistent definition for this disorder, making it difficult to establish a coherent picture of this disorder throughout the world. Nevertheless, efforts are being made to reach one uniform definition, which might also be included in the DSM-5, the authoritative guidebook for the diagnoses of psychiatric disorders by the American Psychological Association (Block, 2008).

Internet has been an effective tool in eliminating human geographical limitations and it is globally applied by all lifestyles because of its attractive and unique characteristics in interpersonal communications and everyday life. However, excessive use of the internet has resulted in negative consequences. Internet addiction disorder is nowadays recognized as a new syndrome among psychologists and researchers, and has provided a fresh area of research (Yellowlees & Marks, 2005; Kim et al., 2005; Amiel & Sargent, 2004; Nie & Erbring, 2008). It points out that excessive and ill use of the internet will result in the withdrawal of the individual from friends, family, and lead to behavioural or personal disorders. Siomos et al. (2008) indicated that some users have reported internet-related problems similar to addiction, and research reports reveal that excessive use of the internet has resulted in social, psychological, and occupational injury. Young (2004) prepared a questionnaire and asked 496 people to complete it in order to answer the following question: ‘Do some individuals become addicted to the internet?’ The research indicated that 100 people were diagnosed as having been addicted to the internet. Some researchers (Yellowlees & Marks, 2005; Kim et al., 2005; Amiel & Sargent, 2004; Nie & Erbring, 2008) have indicated that some of the addiction symptoms of internet include excessive connection to the Internet; involuntary and fastidious use of the internet; difficulty in time management using the internet; and feeling of a dreary world outside the internet. All of which result in a reduction in social communications and an increase in loneliness and depression.

Davis (2001) believes that internet use is not only an addictive behaviour but also forms a collection of recognition and behaviour factors that leave people prone to addiction leading to a negative effect on the individual’s life. He believes that the use of the term ‘ill use of the internet’ is more suitable (Davis 2001). The internet has become an increasingly important tool used by people around the globe today (Ferraro et al., 2007).

There are various theories on the tangibility of internet addiction. One such widespread theory is based on the justification, diagnosis, pursuit, and treatment of internet addiction disorder is the Grohal theoretical model (2009). Grohal’s belief, many individuals are trapped in stage 1 and never reach stages 2 and 3. These people are in fact the internet addicts who need help in order to approach stage 3. First an individual is obsessively attracted to the internet for long periods because of its active, appealing, adventurous, and amazing topics, its diversity and presentation of information, but later he becomes disillusioned, which results in the reduction of internet use and once the time spent on the internet is normalized a type of moderation ensues (Grohal, 2009).

Behavioural theorists believe that should a user learn that the internet provides the opportunity to escape from reality, to acquire love or to be a source of entertainment; he would probably only use it when necessary. These reinforcements will result in conditional use of the internet and the
continuation of the cycle (Michael, 2003). Davis in his recognition-behavior based model identifies the user’s social support and his mistaken beliefs such as “the internet is the only place that I am respected” or “The internet is my only friend” and identifies reinforcements accompanying internet use as the factors behind internet addiction (Davis, 2001). In order to investigate the extent of addiction to the internet and identification of its effects and consequences, various studies have been contemplated in many countries: in Korea (Whang et al, 2001); in India (Nalwa & Anand, 2003). There are many studies in the field of research into internet addiction based on the rate of addiction to the internet among men and women. In some such as Hills and Argyle, Yang and Tung, Bastani and Kennedy and colleagues this rate was shown to be higher in men than women while some other researchers indicated that the reverse was true (Yellowlees & Marks, 2005; Kim et al, 2005). The findings of Hamburger and Artzi, and Davoodabadi indicated that the rate was identical in both men and women. The investigation of the rate of affliction with this disorder and of the rate of gender-based addiction to the internet in the population under study is some of the aims of the present study (Davoodabadi et al, 2006).

Anxiety is another factor whose relationship with internet addiction has been studied. The research by Shepherd and Edelmann on a sample of 169 students indicated that for people suffering from social anxiety, it is easier to communicate through the internet than direct contact and stated the possibility of anonymity as the reason. The findings of this research also showed that social anxiety, lack of personal strength, anxiety and depression could be related to the rate of internet use (Shepherd & Edelmann, 2005). A study carried out by Rice and Markey on a sample of 80 women with an average age of 18.8 indicated that some people feel less anxious while communicating through the internet rather than directly, which was due to personal traits such that introversion and psychoneurotic factors (Rice & Markey, 2008). There has not research to investigate the relationship between internet addiction and various fields of study. The present research investigates the two-abovementioned topics.

2. **Research Questions:**
   1. Can user’s field of study, gender and degree of anxiety be used to predict internet addiction?
   2. Is the rate different for male and female students?
   3. What is the rate of internet addiction in students in all student universities?
   4. Are anxious people more prone to internet addiction?

3. Methodology

The population of the present research included all 2010-2011 undergraduate students in the student university in the city of Isfahan. The method of random clustering was used for sampling. For this purpose, seven universities were picked from among all student universities in Isfahan and 345 students were in turn picked at random from each university. 15 questionnaires were disregarded due to incompleteness resulting in a final sample of 330.

**Assessment tools**

a) **Young Internet Addiction Scale (IAT)**

Young’s questionnaire which contains 20 questions is one the most popular questionnaire in the majority of researches (Ghasemzadeh et al, 2007). The 1998 version of the abovementioned questionnaire was implemented in this study. Yoo & colleagues (2004) found Cronbach Alfa coefficient to be greater than 0.9 as did Whang and colleagues (Whang and et all). In Iran
Ghasemzadeh calculated this value to be 0.883. Dargahi (2006) found the coefficient of stability of this questionnaire to be 0.88 (Ghasemzadeh et al, 2007). The 20 questions of this questionnaire are scored on a 5-point scale, (ranging from 1 to 5). The marking range for this test is from 0 to 100, where the higher the mark the greater dependence on the internet. Once the final mark is determined, it is interpreted according to the following:

b) anxiety questionnaire of Najarian and colleagues
The anxiety questionnaire of Najarian and colleagues used to assess anxiety level (Ghasemzadeh et al, 2007). This scale has 27 items and the participant must reply to each article using the four-graded Likret scale. Where the higher the mark, the higher the level of acquired anxiety will be. The retrial and cronbach’s alpha coefficients for this scale varied between 0.56 and 0.90. Coefficients of stability for the sample total, male and female tests were 0.79, 0.91, and 0.67 respectively. The experiment’s credibility coefficient through simultaneous execution of the above scale with the depression and anxiety questionnaires and piscanti’s partial scale for the MMPI questionnaire were r=0.69 and r=0.54 respectively (Abolghasemi, 1991).

4. Research Findings
The sample population was divided into 4 groups based on their mark from Young’s internet addiction test. From 330 subjects, 92 were found to be non-users, 112 normal users, 69 endangered users, and 57 users had severe addictions. The frequency of the four groups based on gender and field of study is illustrated in tables 1 and 2 respectively:

<table>
<thead>
<tr>
<th>Table 1: Descriptive statistic of respondents’ personal information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Field of study
| Art and humanity | 80.6 | 75 | 69.2 | 81 | 28.8 | 19 | 9.3 | 5 | 54.5 | 180 |
| Science and engineering | 19.4 | 18 | 30.8 | 36 | 71.2 | 47 | 90.7 | 49 | 45.5 | 150 |
| Total | 100 | 93 | 100 | 117 | 100 | 66 | 100 | 54 | 100 | 330 |

Anxiety
| Low | 71.4 | 65 | 73.5 | 86 | 48.6 | 34 | 19.2 | 10 | 59.1 | 195 |
| Up  | 28.5 | 26 | 26.5 | 31 | 51.4 | 36 | 80.8 | 42 | 40.9 | 135 |
| Total | 100 | 91 | 100 | 117 | 100 | 70 | 100 | 52 | 100 | 330 |

As it can be seen from the tables, addiction to the internet is greater in male students’ than female
ones and similarly greater in technical students than humanities ones. The frequency distribution of the 4 groups based on anxiety level and representing internet use is given in table 1.

As can be observed in the table above 46 of those addicted to the internet were in the high anxiety group.

Table 2: The result of T dependent for the gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>df</th>
<th>T</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16</td>
<td>53.2</td>
<td>27.9</td>
<td>8</td>
<td>7.</td>
<td>0.0</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>31.2</td>
<td>25.9</td>
<td>4</td>
<td>7.</td>
<td>0.05</td>
</tr>
</tbody>
</table>

In order to investigate the difference between male and female students with regard to internet addiction, t-test was performed. Table 2 reveals that the difference is significant (p = 0.0005).

Table 3: Regression between Internet addictions of respondents with Predictive Variable

<table>
<thead>
<tr>
<th>Criteria variable</th>
<th>Predictive Variable</th>
<th>T</th>
<th>Beta</th>
<th>B</th>
<th>Sig</th>
<th>R</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>Gender</td>
<td>7.5</td>
<td>0.3</td>
<td>20.2</td>
<td>5</td>
<td>0.54</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>8.5</td>
<td>0.3</td>
<td>.62</td>
<td>5</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field of study</td>
<td>12.2</td>
<td>0.4</td>
<td>28.7</td>
<td>5</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

In order to investigate the ability of prediction variables to foresee internet addiction simultaneous regression analysis was performed, the results of analysing the variables of indicated R = 0.54 and R2 = 0.298 (Table 3).

5. Discussion and conclusion

The findings of this study showed that the rate of severe addiction is greater in male students than female students (80.76 and 19.24 respectively), and far higher in Technical and Foundation Science students than art and humanities students (90.7 and 9.3 respectively).

Therefore, in reply to the second research question it can be said that gender does influence internet addiction. These findings concur with those of Hill and Argyle, and Yang and Tung but not with that of Hamburger and Artzi or Davoodabadi. (Hills & Argyle, 2003; Yang & Tung, 2004; Hamburger & Artzi, 2000; Davoodabadi, 2006).

It can possibly be said that different roles and expectations from each gender influences their internet use (Bastani, 2008), and attention can be drawn to the study by Kennedy and colleagues who reported that even when the availability of the internet is identical for male and female students, their use might not be identical (Kennedy et al, 2003).

It was also found that Internet users have a higher anxiety level than non-users (80.76 and 28.5 respectively). There was also significant difference in anxiety level among the non-user, normal user, endangered user, and addicted user groups, where the significance was highly noticeable in the addicted user group. In reply to the third question, it can be said that anxiety plays a significant role in the affliction with internet addiction. The findings of the present study are in line with the previous researches (Shepherd & Edelmann, 2005, Rice & Markey, 2008). To establish tangibility of the findings of the present research, it can be said that according to the study by Shepherd and Edelmann sufferers from social anxiety have an easier time communicating through internet than directly, due to its anonymity feature (Shepherd &
Edelmann, 2005). It can be said that anxious people use the internet in order to overcome their anxiety, to escape from uneasy thoughts that lead to anxiety, and finally to attempt to replace their turbulent thoughts with the attractions and amusements existing in the internet. In general, it can be said that normal users, i.e. people who use the internet in moderation have lower anxiety levels and are not afflicted with the destructive effects of excessive internet use. In the present study the three variables: gender, user’s field of study and their anxiety level are significant predictors of proneness to internet addiction.

As far as the limitations of this study are concerned, it can be said that research on internet addiction has had a short history, thus accessing relevant sources has proved difficult. As the relationship between individuals’ fields of study and their internet addiction was being studied for the first time, the possibility of comparison with similar studies in Iran did not exist. Students of the student universities formed the participants of this study thus the results cannot be extended to the entire university student population.

Thus should another tool be used, the rate of prevalence to internet addiction could be even greater than those found in this study. Despite all of the aforementioned shortcomings and with reference to the findings of this study, it is recommended that future research should concentrate on the rate of prevalence to the internet based on the user’s social and economic circumstances and the availability of the internet in the user’s home. Finally, it is recommended to study the rate of anxiety in the young through the establishment of seminars so that they can become aware of their high risk of becoming addicted to the internet, hence take the appropriate caution.

* Isfahan is located on the main north-south and east-west routes crossing Iran, and was once one of the largest cities in the world. It flourished from 1050 to 1722, particularly in the 16th century under the Safavid dynasty, when it became the capital of Persia for the second time in its history. Even today, the city retains much of its past glory. It is famous for its Islamic architecture, with many beautiful boulevards, covered bridges, palaces, mosques, and minarets. This led to the Persian proverb "Isfahān nesf-e jahān ast" (Isfahan is half of the world).
References


