Relationship between Personality Traits and Internet Addiction of Students at Kharazmi University

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Abstract

In recent years, the use of Internet, a largely pro-social, interactive, and information-driven medium has skyrocketed and affected everyone’s life, specifically, adolescents and young adults, a generation for whom the line between online and real world interaction is practically non-existent and the existence of addictive Internet use may exert detrimental effects on their lives. Therefore, the research purpose is to assess the relationship between the adolescents’ and young adults’ personality traits and Internet addiction disorder (IAD). Method: the research employed a descriptive, correlative method and the sample comprised 400 students who were selected using stratified sampling form all the faculties located in Kharazmi University. The research tools included Internet Addiction test (IAT) designed and developed by Young and NEO-Five Factor Inventory (NEO-FFI). Results indicated that Internet addiction is significantly, positively correlated to neuroticism and negatively correlated to extraversion, agreeableness and conscientiousness. Moreover, males scored significantly higher on IAD as compared to females.

Keywords: Internet, Internet Addiction, Personality Traits.

Introduction

The Internet as a global village has become an important information and entertainment source for adolescents (Chou and Peng, 2007) serving substantial role in changing the social lives of people (Ross et al, 2009) The vast majority of teens in Iran, 68% of those aged 12 to 19 use Internet. Along with all the benefits the Internet brings, problems of excessive use are also becoming apparent (NALWA, 2003). Psychological and physical problems (sleep deprivation, excessive fatigue, decreased immune system, lack of proper exercise, poor personal hygiene and back or eye strain), social isolation and lack of real-life social relationships, familial (relationship problems with family, neglect of daily chores and increased family conflicts), academic problems (drop in grades, missed classes, decline in study habits) and other problems such as cyberbullying, sexual predators and exposure to pornographic materials (Gross, 2004) have all been identified as consequences of excessive Internet use. It has been alleged by some academics that excessive Internet use can be pathological and addictive and that it comes under the more generic label of technological addiction (Griffiths, 1996a, 1998, 2003). Internet addiction is new disorder first described by Kimberly Young in 1996 and sparked controversial debate among both clinicians and academicians. Since then, there have been many studies examining the multiple facets of this disorder, however, the proper detection and diagnosis of Internet addiction is difficult and often complicated by the fact...
that there is no accepted set of criteria for Internet addiction listed in the DSM-IV (Shaw and Black, 2008). Of all the diagnoses referenced in the DSM-IV, pathological gambling is viewed as most akin to the pathological nature of Internet use. Although there is no standardized definition of Internet addiction, there is acknowledgement among researchers that this phenomenon does exist. Young’s (1999) proposed diagnosis requires a pattern of Internet usage that results in clinically significant impairment or distress as indicated by the presence of five or more of the following criteria, and considering only the non-business and non-academic use including, Preoccupation with the Internet, need for longer amounts of time online to achieve satisfaction, repeated unsuccessful efforts to control, cut back, or stop Internet use, restlessness, moodiness, depression, or irritability when attempting to cut down or stop Internet use, staying online longer than originally intended, jeopardizing or risking the loss of a significant relationship, job, educational or career opportunity because of the Internet, lying to family members, therapists, or others to conceal the extent of involvement with the Internet and using the Internet as a way of escaping from problems or of relieving a dysphoric mood. Internet overuse has high correlation to increased social isolation, low self-steem (Tsai et al, 2009), aggression and impulsive behaviors, (Kim et al, 2008), male gender and neurotic personality characteristics (Tsai et al, 2009). Therefore, personality traits can explain different behaviors on the Internet (Zhong, 2011)

Personality refers to the all aspects of a person’s individuality. Psychologists are aware of the variety in personal characteristics of Internet users (Tosun and Lajunen, 2010). One potentially fruitful place to start in addressing the relationship between personality and online activity is with the Five Factor Model (FFM) of personality (Swickert and et al, 2002).The Five-Factor Model (FFM) is a broad classification of personality traits. The model separates the human personality into a series of five dimensional traits. The first trait, neuroticism, reflects emotional stability (Muscanell and Guadagno, 2011) and reflects a person’s tendency to experience psychological distress and high levels of this trait are associated with sensitivity to danger. Extraversion, the second trait, reflects a tendency to be sociable and able to experience positive emotions (Ross, Orr, Sisic, Arseneault, Simmerin and Orr, 2009) and represents an individual’s level of sociability and out-goingness (Muscanell and Guadagno, 2011).The third factor, openness to experience, represents an individual’s willingness to consider alternative approaches, be intellectually curious, and enjoy artistic pursuits. Agreeableness, the fourth factor, is another aspect of interpersonal behavior, reflecting a tendency to be trusting, sympathetic, and cooperative. The fifth dimension, conscientiousness reflects the degree to which an individual is organized, diligent, scrupulous (Ross, Orr, Sisic, Arseneault, Simmerin and Orr, 2009) careful, and shows self-control (Muscanell and Guadagno, 2011).

Black et al. (1999) attempted to examine the demographic, clinical features and psychiatric comorbidity in individuals reporting compulsive computer use. They reported spending between 7 and 60 h per week on non-essential computer use (mean = 27 h per week). Nearly 50% of the participants met the criteria for current disorder with the most common being substance use (38%), mood (33%), anxiety (19%) and psychotic disorder (14%). Nearly 25% of the sample had current depressive disorder (depression or dysthymia). Results showed that eight participants (38%) had at least one disorder with the most common being compulsive buying (19%), gambling (10%), pyromania (10%) and compulsive sexual behaviour (10%). Three of the participants reported physical abuse and two reported sexual abuse during childhood. Other results showed that 11 participants met the criteria for at least one personality disorder with the most frequent being borderline (24%), narcissistic (19%), and antisocial (19%) disorder. Perhaps it was due to the sensitive nature of this particular study that there were a very small number of participants. However, caution is advised when interpreting the results. Other studies have postulated relationships between Internet addiction, shyness (Chak & Leung, 2004) and attention deficit hyperactivity disorder (Yoo et al., 2004). Lavin, Marvin, McLarney, Nola and Scott (1999) also tested sensation-seeking and Internet dependence in college students (n = 342). Of the total participants, 43 were defined as dependent and non-dependents. Dependents had a lower score on the Sensation Seeking Scale, which contradicted their hypothesis. The authors explained by stating the dependents tended to be sociable in their Internet usage but not to the point of sensation seeking, as it differed from the traditional concept. Young and Rodger’s (1998) examined the personality traits of individuals who were considered dependent on the Internet using the Sixteen Personality Factor Inventory (16 PF). Dependent users were found to rank highly in terms of self-reliance (i.e., they did not feel a sense of alienation others feel when sitting alone, possibly because of the interactive functions of the Internet), emotional sensitivity and reactivity (i.e., they are drawn to mental stimulation through endless databases and information available online), vigilance, low self-disclosure, and non-conformist characteristics (i.e., they might be drawn to the anonymity of the Internet). The findings of this study seem to suggest that specific personality traits may predispose individuals to develop IAD.
There have been a number of longitudinal studies examining the relationship between general Internet use (including heavy use) and various aspects of psychosocial well-being (Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay, & Scherlis, 1998; Kraut, Kiesler, Boneva, Cummings, Helgeson, & Crawford, 2002; Westlund, Norlander, & Archer, 2001; Jackson, Von Eye, Biocca, Barbatisis, Fitzgerald, & Zhao, 2003). However, none of these studies show consistent findings and none of these studies specifically investigated Internet addiction or attempted to measure it.

Numerous studies on the psychologically addictive characteristics of Internet use have led to a growing concern amongst educators about the impact of the Internet on children’s and adolescents' well-being and a number of other studies have highlighted the danger that excessive Internet use may pose to students as a population group (Moore, 1995). This population is deemed to be vulnerable and at risk given the accessibility of the Internet and the flexibility of their schedules (Moore, 1995). However, the role of personality traits in using the Internet has been overlooked in the current literature, the present research aims at investigating the role of personality traits in using the Internet.

Method

The research is a descriptive, correlative study. The statistical population included all the undergraduate students studying in Kharazmi University, out of which a sample of 400 students (f=112, m=288) aged 18-24 was selected using stratified sampling.

Measure

The NEO-Five Factor Inventory (NEO-FFI), the short version, is 60-item (12 items per domain) questionnaire measuring the big five personality traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Additionally, the test measures six subordinate dimensions (known as facets) of each of the “FFM” personality factors. The test was developed by Paul T. Costa, Jr. and Robert R. McCrae for use with adult (17+) men and women without overt psychopathology. The internal consistency information of the NEO presented in the manual was derived from the full job performance sample (n= 1,539). The internal consistency of the NEO-FFI, was high, at: N= .84, E= .75, O= .74, A= .75, C= .83. The literature appears to support the internal consistencies listed in the manual, Costa and McCrae point out that this not only shows good reliability of the domains, but also that they are stable over a long periods of time (past the age of 30), as the scores over 6 years are only marginally more different than the scores as measured a few months apart. But more interestingly, the NEO has been translated and evaluated in many different languages and cultures. This questionnaire has been normalized in Iran by Groosi (1998) and validity of this questionnaire came out to be N= 0.83 , E=0.75 , O= 0. 80 , A=0.79 C= 0.73. Item analysis, (Cronbach’s Alpha) and factor analysis were also carried out. The Persian results show close alignment with those from the US. The domain and facet scales show internal reliabilities. Test-retest reliabilities are all above .75, and validity data is extensive. Moreover, Anisi et al (2011) conducted a descriptive, correlative study to assess the validity and reliability of NEO Five-Factor Inventory (NEO-FFI) on university students. The results showed that the reliability (internal consistency) of the subscales of conscientiousness and neuroticism were 0.83 and 0.80, respectively, and that subscales of agreeableness and extraversion were acceptable at 0.60 and 0.58, respectively. However, the subscale of openness to experience was not internally correlated (0.39). In addition, the results of the convergent validity showed that the correlation of neuroticism and extraversion of the Eysenck were 0.68 and 0.47, respectively. Overall, the four subscales of neuroticism, extraversion, agreeableness, and conscientiousness were valid and can be used to assess the personality of students.

Young’s Diagnostic Questionnaire (YDQ): Young (1996) developed the Young’s Diagnostic Questionnaire (YDQ) to measure IAD. The proposed Young’s Internet Addiction Scale include the following characteristics; It is a 20-item questionnaire, answered in a five-point Likert scale. It covers the degree to which their Internet use affects their daily routine, social life, productivity, sleeping pattern, and feelings. The minimum score is 20, and the maximum is 100; the higher the score, the greater the problems Internet use causes. Young (1998) suggests that a score of 20-39 points is an average online user who has complete control over his/her usage. A score of 40-69 signifies frequent problems due to Internet usage, and a score of 70-100 means that the Internet is causing significant problems. Widyanto and Mcmurran (2006) performed the most comprehensive study on the psychometric properties of YIAT20, where a factor
analysis of the YIAT20 revealed six factors (explaining 68% of variance): salience, excessive use, neglecting work, anticipation, lack of control, and neglecting social life. These factors showed good internal consistency and concurrent validity, with salience being the most reliable ($\alpha = 0.82$). The six factors were all significantly correlated (Pearson's $r$) with each other, with correlations ranging from $r = 0.62$ to $r = 0.226$. Younger and more recent users reported more problems, mainly concerning the neglect of work and social life. Alavi et al (2000) standardized Young’s Diagnostic Questionnaire (YDQ) among Iranian population. Alpha coefficient was equal to .89. Aggregate validity coefficient and construct validity based on convergent validity was also high. Overall, the Persian translation of the (YDQ) version demonstrates good psychometric properties among Iranian population and its results can be trusted for statistical and psychometric analysis.

**Procedure**

The faculties and classes were selected according to the proportion of existing majors and questionnaires were administered with the assistance of professors.

*Demographic Information for Internet-Addicted and Non-Internet-Addicted Student*

<table>
<thead>
<tr>
<th>Group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>112</td>
<td>28</td>
</tr>
<tr>
<td>Female</td>
<td>288</td>
<td>72</td>
</tr>
<tr>
<td>Sum</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology and Education</td>
<td>102</td>
<td>25.5</td>
</tr>
<tr>
<td>Literature and Humanities</td>
<td>98</td>
<td>24.5</td>
</tr>
<tr>
<td>Mathematical Sciences</td>
<td>38</td>
<td>9.5</td>
</tr>
<tr>
<td>Faculty of Engineering</td>
<td>31</td>
<td>7.8</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>106</td>
<td>26.5</td>
</tr>
<tr>
<td>Physical Education</td>
<td>25</td>
<td>6.2</td>
</tr>
<tr>
<td>Sum</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 2. Mean and standard deviation of variables**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Index</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Addiction</td>
<td></td>
<td>39.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Neuroticism</td>
<td></td>
<td>33.6</td>
<td>6.8</td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
<td>33.1</td>
<td>6</td>
</tr>
</tbody>
</table>

13
As demonstrated in table 3 Internet addiction is significantly, positively correlated to neuroticism and negatively to extraversion, agreeableness and conscientiousness. Stepwise multivariate regression analysis revealed that only conscientiousness can be a predictor of Internet addiction. This factor alone will account for 9% of the variance of Internet addiction, F-test for correlation coefficient equals to 38.4 which is significant at 0.001.

Table 3. Correlation Matrix of Internet Addiction and Big Five Personality Traits

<table>
<thead>
<tr>
<th>Trait</th>
<th>Internet addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>*0.11</td>
</tr>
<tr>
<td>Extraversion</td>
<td>**-0.19</td>
</tr>
<tr>
<td>Openness</td>
<td>-0.01</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>**-0.23</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>**-0.30</td>
</tr>
</tbody>
</table>

**Significant at 0.01  * significant at 0.05

Table 4. Internet Addiction Scores of Male and Female Students

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>female</td>
<td>288</td>
<td>37.7</td>
<td>13.4</td>
<td>176.9</td>
<td>-4.2</td>
<td>0.001</td>
</tr>
<tr>
<td>male</td>
<td>112</td>
<td>44.7</td>
<td>15.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 shows that the mean score of male students is significantly higher than female students.

Discussion

As demonstrated in the present study, Internet addiction affects around 39.6 of the online population, moreover, adolescents and young adults are specifically deemed to be vulnerable and at risk (Aydin and sari, 2011; Beebe et al, 2004), comprising a large percentage of the online population (Tsai et al, 2009). Young and Lee (2011) postulated that some on-line users consider the internet as an alternative, text-based reality where users are able to immerse themselves by taking on another social persona through shaping a false and assumed identity, which in itself would be highly rewarding psychologically to guard against the attendant risks and difficulties of social relationship and avoiding the challenges of life in the real world. Gender can be taken into account as one of the key contributory factors of Internet use (Akman and Mishra, 2010). Gender appears to be a determinant in the level of Internet usage in this study. These results suggest that male students are more likely to become addicted to the Internet than are females and pathological Internet users are likely to be male. That might be due to the traditional stereotypes of gender roles holding
that women are not as technologically oriented as men and computer has been considered stereotypically masculine. (Papastergiou and Solomonidou, 2005) and females may cultivate a fairly negative attitude towards it and their mild disinterest (Durndell & Haag, 2002). On the other hand, excessive and pathological Internet use is significantly, positively correlated to neuroticism and strongly, negatively correlated to extraversion, agreeableness, and conscientiousness. Dependent users are found to rank highly in terms of feeling of loneliness, affective disorders, low self-esteem and impulsive behavior (Beranuy et al, 2009).

The problems related to adolescents and young adults can be defined as shyness versus aggression, highly controllable versus uncontrolable, inner problems vs. outer problems such as social isolation, anxiety, depression and physical discomforts (Holtz& Appel, 2011). These traits induce adolescents and young adults to excessive Internet use due to the incapability of responding to life challenges.

Neuroticism involves attributes like shyness, guiltiness, being tense, and being moody (Tosun and Lajunen, 2010). Scholars described how those who were high on the trait of neuroticism were likely to use the Internet to avoid loneliness. They found that individuals who were high on neuroticism reported the lowest levels of perceived social support (Ross, Orr, Sisic, Arseneault, Simmering and Orr, 2009). Individuals who score high on agreeableness tend to be prosocial, warm, trusting and friendly to others. Disagreeable individuals, on the other hand, are less pleasant to others, argumentative, uncooperative, and harsh disagreeable individuals may turn to the Internet as a means to satisfy their needs for antagonism (Buckner and et al, 2012). The characteristics of well-adjusted individuals make them not seek social contacts on the Internet. The results of the present research are explainable in terms of extraversion and the individual’s tendency to invest time in social relationship, to experience positive emotions and community participation, extravert individuals as Web users do not consider online or cyber-relationships as social support (Kim et al, 2002). Those who score high on conscientiousness have control over their impulses and are orderly, diligent, and strive to achieve goals. In contrast, unconscientious individuals are predisposed toward acting impulsively, being disorganized, and tend to procrastinate on tasks (Buckner et al, 2012). Therefore, such characteristics can demonstrate their disinterest in overusing the Internet.

Based on the findings, it is concluded that excessive Internet use clearly represents a health risk for a significant portion of the population of adolescents and young adults. Excessive time spent in front of a computer and web overuse may be detrimental to various aspects of their lives including the social, functional, physical, and psychological aspects, forsaking other important priorities in the process, at risk for a range of morbidities and, in the extreme, even mortality. With continuing advances in computing and Internet power and availability, this issue is likely to become increasingly prevalent. Although some researchers have suggested that people who have easier access to the Internet are more likely to become addicted (e.g., Davis et al., 1999), additional research is nevertheless needed to determine what factors may cause individuals to become addicted to the Internet. As a result, further experimentation with a more comprehensive level of analysis is necessary to examine cause and effects of pathological Internet use.

References


