A Study of Problematic Internet Use among Turkish CEIT\textsuperscript{1} Students

By

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Abstract

In this research, problematic internet usage of Turkish Computer Education and Instructional Technologies (CEIT) students has been analyzed according to gender, class and daily internet usage. The subjects were 162 CEIT students from three universities in Istanbul, Turkey (Marmara University, Maltepe University and Yıldız Technical University). The instruments were Personal Information Form and Generalized Problematic Internet Use Scale 2 (GPIUS2). The following results were obtained; (a) CEIT students have above medium level of problematic internet usage; (b) Male CEIT students are, compared to female CEIT students, more oriented towards problematic internet usage; (c) CEIT students who have longer periods of daily internet usage are more oriented to problematic internet usage; (d) 1\textsuperscript{st} grade CEIT students are more oriented to problematic internet usage than 4\textsuperscript{th} grade CEIT students. It can be said that the above-medium problematic internet use inclination of CEIT students heralds the potential problems in future. To sum up, attempts underlying the fact that immediate precautions must be taken for CEIT students and technology related departments should be started without delay. Based on this deduction certain suggestions have been presented at the end of research.

Keywords: Problematic Internet Usage, Internet addiction, Computer Education, Turkish students

1. Introduction

In today’s world, technology has been prevalently used in almost all spheres of life and as a consequence the personal ownership ratio of computer and internet is rapidly increasing each year. According to “Information Technologies Use Survey” conducted by Turkish Statistical Institute, the ratio of computer use and internet access means in enterprises was 88.7\% and 85.4\% in January 2007 while this ratio increased to respectively 90.6\% and 89.2\% in January 2008 and by the year 2010, the ratio of internet access ownership rose to 90.9\% (Turkish Statistical Institute, 2011).

Internet is commonly used by young population for a variety of purposes. Particularly at universities easy access to internet, the need to study courses or contact with course instructor, desire to contact freely with the opposite sex etc. make the internet use a favorite activity amongst university students. Besides several researches covering university students have demonstrated that a great majority of students possess the means of easy access to computer and internet (Ceyhan, Ceyhan & Gürcan, 2007; Deniz, 2001, 2007; Deniz and Coşkun, 2004; Tutgun, 2009; Tutgun and Deniz, 2010; Tutgun, Deniz & Moon, 2011). We also come across some studies illustrating that these problems can even reach to clinical levels (Chin-Chung and Sunny, 2003; Davis, 2001; Köröglu et. al., 2006; Niemz, Griffiths & Banyard, 2005; Young and Rodgers, 1998; Young, 1996a, 1996b).

Many researches have been conducted concerning the lack of required control on internet usage and the problems it creates. Since behavior pattern causing trouble for individuals has been defined as

\textsuperscript{1} Computer Education and Instructional Technologies Department
“pathological” or “problematic” due to its destructive nature, for excessive internet usage too, different definitions have been presented. The term internet addiction was introduced for the first time by Goldberg (1996) in a forum website and a list of symptoms was defined. Right after that, incredible numbers of people from the whole world sent their complaints to this forum site regarding internet use. Hence a global research domain emerged and a good number of researchers and clinicians started to conduct studies on internet addiction. The earliest indicators of internet addiction were developed by Goldberg (1996), DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) parallel to the diagnosis measurements of alcohol addiction, subsequently, for internet addiction and internet misuse Young (1996b) developed certain criteria in line with diagnosis measurements of Pathologic gambling presented in DSM-IV (American Psychiatric Association, 1995). Following the cases exemplified by clinicians, a new dispute emerged; whether the internet caused addiction or excessive usage of internet was simply a behavioral indicator of already-existing psychological problems that were manifested through internet (Keser Özcan and Buzlu, 2005; King and Barak, 1999). Further studies employed several new concepts like internet addiction, internet dependency, problematic internet usage, pathologic internet usage, internet behavior addiction and cyber addiction. In present study, the term of problematic internet use has been used.

As put forth by Caplan (2005) problematic internet usage is a multi-dimensional syndrome composed of cognitive and behavioral symptoms causing negative social, academic/professional outcomes. According to this perspective, the term internet addiction on its own is not encompassing enough hence the terms pathologic or problematic have also found place in literature. Afterwards based on the generalized problematic internet usage developed by Davis (2001), Caplan (2010) developed a multi dimensional measurement tool named as Generalized Problematic Internet Use Scale 2 (GPIUS2) according to cognitive-behaviorist model and indicated that people’s self expression habit on internet which is connected to their lack of self trust brought about significant numbers of negative consequences on their lives. In present study too, the measurement tool developed by Caplan (2010) has been used after adapting into Turkey.

As relevant literature also puts forward, comprehensive research on the problematic internet usage among university students, points to the gravity of situation (Anderson, 2001; Caplan, 2010; Ceyhan, Ceyhan & Gürcan, 2007; Deniz and Tutgun, 2010; Kandell, 1998; Lavin et. al., 1999; Morahan-Martin and Schumacher, 2000; Niemz et. al., 2005; Odacı and Kalkan, 2010; Tsai and Lin, 2001; Tutgun, 2009; Tutgun and Deniz, 2010; Tutgun, Deniz & Moon, 2011; Young, 2006). Furthermore university students are more inclined towards developing excessive internet usage-related problems on accounts of various factors containing developmental problems (Ceyhan, Ceyhan & Gürcan, 2007). Kandell (1998) explained internet addiction as a psychological addiction and viewed particularly the young as a risky group and he emphasized that excessive usage of internet may cause problems related to health, communication and time management. According to Erikson (1998) the basic developmental mission of university youngsters is achieving to establish close contact with the members of the same or opposite sex. It is true that university youth failing to develop social skills in natural social environment is likely to face potential problems in future, particularly in their family and work environments. The social and academic failures individual an individual undergo due to the problematic internet usage at university years may bring about negativities that can form the base for loneliness/social isolation and potential family and work problems in future years.

Furthermore the students from technology related specific departments, compared to students from other departments, use the computer and internet more frequently. Internet is an environment open to all kinds of information and views. Internet may become a huge risk factor particularly for students who fail to limit their internet use in line with the needs. In Tutgun (2009)’s research it has been found that compared to social sciences, science and mathematics departments and fine arts departments students, the ones in
Computer Education and Instructional Technologies Department are more inclined to problematic internet use. As the other departments were analyzed within themselves, no difference was found. Based on this point, it should be analyzed if computer and internet use related departments may be leading to problematic internet use. Therefore, the problematic internet use of technology related departments should be analyzed distinctively and the leading causes should be underlined; then more specific solutions can be generated and the source of problem can be detected more evidently. On accounts of all these reasons “problematic internet use at Department of CEIT” constitutes the problem of current research.

The objective of present research is to analyze, within the sample of Computer Education and Instructional Technologies Department, whether academic departments related to technologies cause their students to misuse internet. In line with this objective, the research questions are:

1. What is the level of problematic internet usage of CEIT students?
2. Are there differences in problematic internet use by CEIT students characteristics (such as sex, class, and daily use of internet)

2. Method

Participants
The participants were 162 Turkish CEIT students from three universities in Istanbul, Turkey (Marmara University, Maltepe University and Yıldız Technical University). 53.1% (n=86) of the CEIT students are freshmen and 46.9% (n=76) are seniors. 38.9% (n=63) of the participants are female and 61.1% (n=99) are male students.

Data Collection Instruments
Personal Information Form and Generalized Problematic Internet Use Scale were used to collect data.

Personal Information Form. Personal Information Form has been prepared by the researcher for the purpose of discovering certain demographical features of prospective teachers. The data gathered from ‘Personal Information Form’ are; the registered university, class and gender and daily internet use.

Generalized Problematic Internet Use Scale 2 (GPIUS2). GPIUS2 developed by Caplan (2010) was used to collect data about the problematic aspects of Internet use of prospective teachers. GPIUS2 has five sub scales, preference for online social interaction (POSI), mood regulation, cognitive preoccupation, compulsive internet use, negative outcomes. As Caplan indicates (2010, p.1093) GPIUS2 scale can be used in two different ways, as a set of separate sub-scales or as an overall composite index of GPIUS. In the present study the use of composite index of the scale was preferred. The scale’s internal consistency reliability was found α=.91 by Caplan. In the present study internal consistency reliability was found α=.89 which is as high as the original value. First, GPIUS2 was translated into Turkish by the experts in English language and the field who has studies in computer/internet attitudes. After the translation, the scales were applied to the bilingual (Turkish/English) university students for test re-tests in three weeks intervals. High correlations and no differences were found (r: .75, p<.001; [paired group] t: .34, df: 25, p>0.05 for the Turkish sample). The results showed that the language equivalence and internal consistency reliability of the scale was approved for Turkish version of GPIUS2.

Procedure
After getting the lecturers’ permission for the study, the data collection process lasted for two weeks in spring semester of 2010-2011. Personal Information Form and Generalized Problematic Internet Use Scale 2 were applied to CEIT students. Data were collected from participants who returned the
A Study of Problematic Internet Use among Turkish CEIT Students

questionnaires by hand after completing them during their lecture time in 15 minutes. The students individually consented to participate. Confidentiality and anonymity were stressed to the participants.

Data Analysis Procedure
Statistical analysis was conducted using the SPSS, Version 18 package. Descriptive statistics, t-tests and analysis of variance were employed.

3. Results
First of all, the level of problematic internet usage of Turkish CEIT students has been examined. Arithmetic means and standard deviations derived from GPIUS2 scale are given in Table 1. It has been seen that problematic internet usage of participants is above medium level which means the internet medium is rather problematic for Turkish CEIT students.

<table>
<thead>
<tr>
<th>GPIUS2 Scale</th>
<th>n</th>
<th>(\bar{x})</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic internet usage</td>
<td>162</td>
<td>60.11</td>
<td>11.20</td>
</tr>
</tbody>
</table>

Second main research question is to find out the differences of problematic internet use of Turkish CEIT students by their some characteristics.

<table>
<thead>
<tr>
<th>GPIUS2 Scale</th>
<th>Gender</th>
<th>n</th>
<th>(\bar{x})</th>
<th>sd</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic internet usage</td>
<td>Female</td>
<td>63</td>
<td>57.93</td>
<td>10.20</td>
<td>160</td>
<td>1.99</td>
<td>.048</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>99</td>
<td>61.50</td>
<td>11.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 shows that there is significant difference between males and females in relation to problematic internet use among Turkish CEIT students. Male Turkish CEIT students were found to have more problematic use of internet than female counterparts.

<table>
<thead>
<tr>
<th>GPIUS2 Scale</th>
<th>Class</th>
<th>n</th>
<th>(\bar{x})</th>
<th>sd</th>
<th>df</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic internet usage</td>
<td>1st</td>
<td>86</td>
<td>58.40</td>
<td>11.61</td>
<td>160</td>
<td>2.089</td>
<td>.038</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>76</td>
<td>62.05</td>
<td>10.45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 reveals that CEIT students in the 1\textsuperscript{st} grade has obtained significantly higher scores (p<0.05) than 4\textsuperscript{th} grade CEIT students from GPIUS2 scale. To conclude, it is possible to claim that 1\textsuperscript{st} grade CEIT students are more oriented to problematic internet usage than 4\textsuperscript{th} grade CEIT students.

Table 4: One-Way Analysis of Variance Results of the Differences in terms of Problematic Internet Usage of Turkish CEIT Students with respect to their Daily Internet Usage Lengths

89
As seen in Table 4 significant differences were found between problematic internet usage of Turkish CEIT students in relation to time they spend on Internet in a day. The results show that heavy users are more problematic in Internet use in CEIT sample.

Table 5: One-Way Analysis of Variance Results of the Differences in terms of Problematic Internet Usage of Turkish CEIT Students with respect to their Computer Usage Self-Competency Perceptions

<table>
<thead>
<tr>
<th>GPIUS2 Scale</th>
<th>Computer Usage Self-Competency</th>
<th>n</th>
<th>$\bar{x}$</th>
<th>sd</th>
<th>F</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic internet usage</td>
<td>A. Never competent</td>
<td>9</td>
<td>59.70</td>
<td>5.90</td>
<td>.338</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>B. Few Competent</td>
<td>32</td>
<td>59.53</td>
<td>8.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Quite Competent</td>
<td>89</td>
<td>59.88</td>
<td>12.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. Completely Competent</td>
<td>32</td>
<td>61.90</td>
<td>9.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>162</td>
<td>60.11</td>
<td>11.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows that there is no difference between problematic internet usage in relation to computer sufficiency levels of Turkish CEIT students.

Table 6: One-Way Analysis of Variance Results of the Differences in terms of Problematic Internet Usage of Turkish CEIT Students with respect to their Universities

<table>
<thead>
<tr>
<th>GPIUS2 Scale</th>
<th>University</th>
<th>n</th>
<th>$\bar{x}$</th>
<th>sd</th>
<th>F</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problematic internet usage</td>
<td>A. Marmara University</td>
<td>62</td>
<td>61.59</td>
<td>11.55</td>
<td>2.302</td>
<td>n.s.</td>
</tr>
<tr>
<td></td>
<td>B. Maltepe University</td>
<td>14</td>
<td>54.57</td>
<td>16.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Yıldız Technical University</td>
<td>86</td>
<td>59.95</td>
<td>9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>162</td>
<td>60.11</td>
<td>11.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that there is no difference between problematic internet usage in relation to universities of Turkish CEIT students.

4. Discussion

In the study, Turkish CEIT students’ problematic internet use levels have initially been detected and the level has been found to be above medium. Above medium score obtained by students in this group demonstrates that they are more inclined to problematic internet use, which is similar to some research findings covering university students in general (Tutgun, 2009; Tutgun and Deniz, 2010).
A Study of Problematic Internet Use among Turkish CEIT Students

Turkish CEIT students’ problematic internet use has been analyzed with respect to gender variable and it has been detected that compared to female students, male students are more inclined to problematic internet use (p<0.05). This finding supports relevant researches indicating that with respect to gender, internet addiction is more pathological in males (Anderson, 2001; Kubey, Lavin & Barrows, 2001; Morahan-Martin and Schumacher, 2000; Odacı and Kalkan, 2010; Tutgun, 2009; Tutgun and Deniz, 2010; Tutgun, Deniz & Moon, 2011). In Morahan-Martin and Schumacher (2000)’s research as well, similar findings have been obtained. The individuals diagnosed with pathologic internet use are mostly composed of men and these people use internet to make new friends, receive emotional support, play interactive games and find social comfort. This deduction is also a one-to-one reference to the finding of present research.

As stated by Caplan (2005), individuals who lack skills to show themselves prefer online communication instead of face-to-face interaction and consequently online social interaction drives these individuals to compulsive internet usage which brings with itself some negative consequences. This in turn pushes people to face negativities in many fields due to their internet usage. Based on this point, Davis (2001) calls attention to the fact that people are harmed due to the negativities they go through in their work, school and personal relations and he advocates that problematic internet usage contains in itself compulsive internet usage. As exhibited in present research as well, for the purpose of getting social benefit/social comfort, CEIT students perform problematic internet usage tendencies thus they get exposed to negative consequences of internet and with respect to gender, male CEIT students are more oriented towards problematic internet usage than female CEIT students.

Additionally various researches have been conducted to analyze the problematic internet use of students with respect to their first and last year at the university and the aim has been to detect if there was a difference with respect to the first and last academic year of students as regards problematic internet use. In this study, according to total scores collected from problematic internet use scale, 1st year students are more inclined to problematic internet use than 4th year students (p<0,05). Compared to 4th class CEIT students, first class CEIT students use internet more commonly for social purposes and they feel themselves more comfortable on internet. Accordingly we can assert that freshman CEIT students prefer internet environment to form a social ambiance and since they feel themselves more comfortable here they use internet to make friends more freely and easily. As stated by Erikson (1998), “the basic developmental mission of university youngsters is achieving to establish close contact with the members of the same or opposite sex”. Freshman students as well make use of internet to form a social ambiance and when they reach 4th class we assume their attempts diminish. Furthermore, since universities shelter students from different cities or countries students may have a tendency to prefer internet not only to establish a social ambiance but also to contact with their family and friends in far away places. Leon and Rotunda (2000) in their research analyzed a 25-year old male international exchange student and discovered that due to few numbers of friends and cultural differences, this sample student spent the whole day on internet and parallel to that he over-used internet to meet new people and get informed about his family and friends and even more he stated that he had felt uneasy when no news arrived and his homesickness and depression settled once he communicated through internet. We can state that problematic usage caused by excessive internet usage is more impressive for students from distant places than other students.

In Kubey, Lavin & Barrows (2001)’s research conducted amongst 576 students in Rutgers University first year students composed 37,7% of the group described as addictives. To sum up it is clear that 1st year Turkish CEIT students are more inclined to pathologic internet use that is likely to emerge in future. Besides young population’s early encounter with computer and internet due to rapid development in technology may be assistive in their more frequent internet use compared to older ones. Wright (2001) underlines this deduction by terming the new population as “Net Generation”. As the causes for the
widespread use of internet amongst young population are analyzed, the increasing means of access to internet appears before us (Turkish Statistical Institute, 2011).

According to problematic internet use research findings demonstrating the differentiation amongst Turkish CEIT students with respect to time spent daily on the net, heavy users are, compared to light users, more inclined to problematic internet use. The highest average \( (\bar{x}=68.80) \) was obtained by Turkish CEIT students who spent daily 5-8 hours on the internet and the second rank \( (\bar{x}=66.50) \) belonged to students who spent more than 8 hours a day on the internet. The smallest average \( (\bar{x}=55.89) \) belonged to Turkish CEIT students who spent less than 1 hour daily on internet. From this point of view it is obvious that Turkish CEIT students, as an outcome of their technology related field as well as other purposes, spend more time on the internet a day. Due to the excessive time spent by Turkish CEIT students on the net and their above medium level of problematic internet use we can reasonably assume that the daily time spent on the net is one of the greatest risk factors in this group and this deduction is parallel to other researches that analyzed the relation between internet use lengths and negative results associated with excessive internet use (Anderson, 2001; Caplan, 2005; Davis, 2001; Rotunda et. al., 2003; Young, 1999).

In comparisons related to social benefit/social comfort aspect, it reveals that as daily internet usage length increases the tendency towards problematic internet usage also grows. This finding can be explained with the fact that individuals who go through social defenselessness in real life and who lack competent social skills use internet excessively to establish a social environment. As stated by Caplan (2005) individuals who lack skills to show themselves prefer online communication instead of face-to-face interaction and consequently online social interaction drives these individuals to spend longer periods of time on internet. On the other hand the social environment established on internet may drive people to use internet continuously and this situation can go so far as to cause some psychological disorders. In Young (1996a)’s case study, an internet user at first spent a few hours in a week for chatting and within 3 weeks, it has been detected that the user spent an average of 50-60 hours on internet since he claimed to feel a compulsion to enter internet. According to the research once the user gets away from social environment on internet he shows symptoms of withdrawal, s/he cancels appointment, gives up calling real life friends, puts an end to previously enjoyed social activities, lessens family contact, gives up daily chores and during the times when there is no internet access he said that he felt under depression, tense and nervous. In literature as well, there are many clinical researches supporting this deduction (Black, Belsare & Schlosser, 1999; Caplan, 2005; Griffiths, 2000; Leon and Rotunda, 2000; Young, 1996a).

In Griffiths’ (2000) research, it has been underlined that excessive internet users do so in order to overcome or inactivate their insufficiencies (social defenselessness in real life, low self-esteem, physical incompetence). Accordingly these particular individuals go through serious problems due to excessive usage of internet. In short, as daily internet usage length increases, problematic internet usage tendency also grows.

As the research findings demonstrating if Turkish CEIT students’ problematic internet use differs with respect to their computer use efficiency perception are examined, no meaningful difference has been detected. It is only natural that research group, since they are students of a technology related department, already feels efficient in computer use. There are certain researches indicating that easily applicable, interactive internet programs that can be used even by the ones who lack any computer literacy can be so effective that they can even drive these people to addiction (Black, Belsare & Schlosser, 1999; Leon and Rotunda, 2000; Young, 1996a). In that case those people feel themselves competent on computer usage and since they feel adequate in such applications, compared to the ones feeling less competent, they are more likely to orient towards problematic internet usage.
A Study of Problematic Internet Use among Turkish CEIT Students

The research has been executed among 3 different universities and problematic internet use has been analyzed with respect to universities. The research findings indicated no difference with respect to universities and put forth that Turkish CEIT students attending all three universities are inclined to problematic internet use. In Tutgun and Deniz (2010)’s research, problematic internet use of students from different departments has been examined and it has been detected that CEIT students, compared to students from Science-Mathematics, Social Sciences or Fine Arts, are more inclined to problematic internet use. In present research too, CEIT has been analyzed individually and 3 different universities within the scope of research did not cause a differentiation within themselves.

5. Conclusion and Recommendation

Internet addiction is a comprehensive term including various behavioral disorders as well as stimulus-control disorders. From this perspective, internet use may harass a person’s psychological wellness. According to present research it is obvious that the above-medium problematic internet use inclination of Turkish CEIT students heralds the potential problems in future. To sum up, attempts underlying the fact that immediate precautions must be taken for CEIT students and technology related departments should be started without delay. Driven from this deduction some suggestions have been presented here:

1. Some attempts can be made to regularly and frequently detect internet use levels of CEIT students and to control their uses.
2. In order to prevent the lack of control in CEIT students’ internet use instructors can, at certain intervals, organize activities and talks to inform the students about problematic internet use, achieving time control and computer/internet ethics.
3. In order to detect if there is a difference amongst the problematic internet use of CEIT students from a variety of universities, more practices can be organized in a larger scope of universities and context of research can be extended.
4. Various researches have pointed out that male students are more inclined to problematic internet use than female students. From this viewpoint, measurements can be taken to provide equal internet opportunities for both genders at the universities.
5. In order to prevent the excessive time spent on the net by freshmen to make new friends and adapt easily to new social environments, the instructors may organize group projects and employ cooperative working methods in class to support particularly 1st year students.
6. In order to analyze problematic internet use’s relation with personal and psychological traits, qualitative and in-depth analyses can be conducted particularly in technology-related departments.

References


