Comparison of Turkish Problematic and Non-Problematic Internet Users

A. AYKUT CEYHAN
Department of Educational Sciences
Anadolu University
Yunus Emre Campus, 26470 Eskisehir
TURKEY
aceyhan@anadolu.edu.tr http://home.anadolu.edu.tr/~aceyhan

Abstract: - The current study aims to determine the difference between university students who are identified as problematic and non-problematic internet users in terms of gender, grades, program type attended, academic achievement level and internet activities such as personal e-mail, searching general information, file transfer, news, shopping, online gaming and chat room. Data was collected from 1058 university students by utilizing the Problematic Internet Usage Scale and a questionnaire. The results of the analyses indicated that problematic internet users experienced more negative consequences of internet, used internet to get more social benefit/comfort and used internet more excessively than non-problematic internet users. In addition, the results revealed that more male students than females were determined as problematic internet users, more students who attended the programs in the field of science than the ones who attended the programs in the field of social sciences were found as problematic internet users. There were no significant differences according to grades and academic achievement level. Based on the internet activities, the results pointed out that the problematic internet users preferred the internet activities such as e-mail, file transfer, news, shopping, online gaming and chat rooms more than non-problematic internet users did, and also the problematic internet users spent more time for these activities, except for searching general information activities.

Key-Words: Internet addiction, internet dependency, problematic internet use, internet activity

1 Introduction

Internet has become an important part and an indispensable communication tool of social life. Therefore, internet has made important contributions to the quality of human life, considerably. The number of internet users and the amount of time spent in the internet have considerably increased in recent years [1]. In parallel with this rise, the areas and purposes or reasons of internet use have also increased in variety such as communicating with the others, searching any information, shopping, passing time, chatting, gaming, gambling, file transfer and pornography and so on. Therefore, the effects of internet have almost been seen in all aspects of daily life.

For some internet users, internet is a necessary instrument which is used for various purposes when they need, and facilitates their lives, but internet is everything for some users and they do not prevent themselves from connecting to the internet activities during the whole day. Naturally, this kind of misuse and overuse make use unhealthy/ pathological/ problematic internet use and further internet addiction. Parallel with this explanation, it was expressed that the dramatic rise in internet use in recent years has led to pathological use/internet addiction [2] and is a growing problem [3].

Nowadays, internet use has become widespread especially among young people [1] or university students because they access the internet easily and have lots of free time. Therefore, the students appear more vulnerable to the development of internet dependency [2-4] if the university students' developmental tasks, such as developing identity formation and establishment of intimate relationships [3-4], and unique psychological and environmental factors [3] are also taken into consideration.

University students are in a period of emerging adulthood, including the period between the late teens through the twenties [5]. In this stage, they are faced with specific developmental tasks such as making independent decisions, having a job, establishing and maintaining meaningful close relationships with the others, establishing friendships, etc. In this stage, being unsuccessful in accomplishing these developmental tasks, and experiencing adjustment difficulties because of encountering with new environments and circumstances, preparing themselves for professions, and spending their free times in the best way, difficulties of making independent decisions, having some problems including accommodation, nutrition, and economic problems [6] may lead to problematic internet use or internet addiction. Thus, internet may turn into a release or coping mechanism to cope with

these difficulties. As a result, internet can become an "addiction of choice" for many university students when environmental and developmental factors are considered [3-4].

In the university environment, some students may display undesirable problematic internet usage behavior. As a result of this, the time the students spend on internet and the excessive use of internet can influence their physical and mental health negatively. Studies indicated that internet users began to show behaviors similar to the other addictions such as drug, alcohol or gambling [1, 7-8]. Therefore, the researchers can carry out various studies related to pathological/ problematic internet use because social and emotional functions of many internet users have been affected negatively and caused various impairments.

In the literature, a number of studies on the problematic internet use have been conducted in recent years. For example, there are a great number of studies examining the relations between problematic internet use and some demographic characteristics such as gender[3, 9-16], age/grade level [9], school performance [7, 11-14, 17] and type[1]. The relations between problematic internet use and several variables including online experiences such as length of time period on internet use [2, 7, 10], time spent online [2, 7, 11, 15-16] and purpose of internet usage/internet activities type [1, 10-11, 16] also have been researched.

Based on all these explanations stated above and the results of the studies in the literature, it is obvious that the students' some demographic characteristics and various factors related to internet use have been recognized as significant factors on their problematic internet use behaviors. Further studies may reveal the patterns of the problematic internet use behavior and provide better understanding of problematic internet use behavior of university students. There are limited numbers of studies conducted on this subject with Turkish university students. Therefore, there is a need to make various studies on the problematic internet use like the comparison between Turkish problematic and non-problematic internet users to understand the effects of the internet.

2   Problem Formulation

2.1   Problem definition
The present study aims to determine the difference between university students who are identified as problematic and non-problematic internet users in terms of gender, grades, program type attended, academic achievement level and internet activities such as e-mail, searching general information, file transfer, news, shopping, online gaming and chat room.

For this purpose, the current study investigates the following research questions:

1. Do problematic and non-problematic internet users differ in terms of the domains such as negative consequences of the internet, social benefit/comfort and excessive use of problematic internet use?
2. Do the proportions of problematic and non-problematic internet users vary significantly in terms of some demographic characteristics such as gender, grades, program type attended, and academic achievement level?
3. Do the proportions of problematic and non-problematic internet users vary significantly in terms of the average time spent weekly on the internet per internet activities such as e-mail, searching general information, file transfer, news, shopping, online gaming and chat room?

2.2   Methods
The current research is a descriptive study about characteristics of problematic and non-problematic internet users.

2.2.1   Subjects
Participants were 1058 university students attending to undergraduate faculties at Anadolu University, in Turkey, in 2007. Out of 1058 students, 572 (54.1%) were female, 477 (45%) were male students and nine student (0.9%) were unknown because of no response.

2.2.2   Instruments
Problematic Internet Usage Scale (PIUS): The PIUS was developed on Turkish students by Ceyhan, Ceyhan & Gürcan [18] with the assumption that the severity of internet use shows continuity from normal to pathologic use. The PIUS is a likert-type scale used to determine problematic internet use of Turkish university students. The PIUS composed of 33 items has been rated on a five-point scale ranging from "not appropriate at all" to "very appropriate". The score range of PIUS varies between 33 and 165, and the high scores indicate that an individual's internet usage is unhealthy or problematic, may affect their lives negatively and may create tendency to internet addiction [18].

The PIUS consists of three sub-factors named by negative consequences of the internet (NCI), social benefit/social comfort (SB/SC), and excessive use (EU). These sub-factors consisted of 17 items, 10 items and 6 items, respectively. They accounted for the 48.96% of the total variance together. Internal consistency coefficients (α) of the PIUS and the three factors were found as 0.94, 0.94, 0.85 and 0.75, respectively. Item total correlations ranged between 0.31 and 0.70 (p<.001), and test-re-test reliability coefficient was 0.81 [18].

The questionnaire: The questionnaire was developed for this study by the researcher to collect information about the participants' some demographic characteristics and online experiences related to the

internet usage. The questionnaire asks participants' gender (male/ female), grades (freshman/ sophomore/ junior/ senior), program type attended (science/ social sciences) and cumulative grand point average (cumulative GPAs). It also asks about the average time periods they spend for each internet activities weekly (never using/ 6 hour and more) such as e-mail, searching general information, file transfer, news, shopping, online gaming and chat room.

2.2.3 Procedure
The PIUS and the questionnaire were applied to the university students attending various undergraduate programs at Anadolu University in 2007 and participating in the research voluntarily. The participants completed the instruments in 20 minutes approximately during classes.

In this study, to compare the problematic and non-problematic internet users according to the variables including some demographic characteristics and online experiences the problematic and non-problematic internet users were initially ascertained. For this aim, the extreme groups were determined on the basis of the PIUS total scores of 1058 students by the selection criterion that equals to mean ± ½ standard deviation. Thus, the subjects with scores at either extreme ends were selected and subjects with high scores formed the "problematic internet users" group; subjects with low scores formed the "non-problematic internet users" group. The following procedures were carried out.

The means and standard deviation of points gathered from the PIUS were calculated, firstly. According to this calculation, the mean and standard deviation of the PIUS scores were 63.24 and 21.38, respectively. Below the ½ standard deviation from the mean of the participants' PIUS scores distribution was about 52.55 and above 1 standard deviation was 73.93. Thus, 333 (31.5%) subjects whose score were between 53 and 74, and 75 missing cases (7.1%) were out of analysis. Finally, the participants were divided into "non-problematic internet users group" which consists of 376 (35.5%) subjects whose PIUS points were between 33 and 53, and to "problematic internet users group" comprising 274 (25.9%) subjects whose points were between 73-149. Therefore, data obtained from 650 students for the PIUS were analyzed.

2.2.4 Analysis
In the analysis, the independent t test was used for the comparisons of the problematic and non-problematic internet users' PIUS subscales scores, and academic achievements. In addition, the Pearson chi-square test statistic (χ^2) for a two-way contingency table analysis was utilized to evaluate whether a statistically significant relationship exists between the variables. Phi coefficient (Φ) was taken into consideration to assess the strength of the relationship between the variables [19]. Data was analyzed using SPSS for Windows.

3 Problem Solution

3.1. Differences between Problematic and Non-Problematic Internet Users on the PIUS Subscale Scores
In the study, it was also examined whether the problematic and non-problematic internet users differed on the basis of the PIUS subscale scores significantly. The results of t test revealed that all the subscale scores of the problematic internet users was higher than that of non-problematic internet users (M=42.88, SD=11.20 and M=18.52, SD=1.89, t=35.63, p=.0001 for the NCI; M=26.97, SD=6.59 and M=13.10, SD=2.66, t=32.94, p=.0001 for the SB/SC; and M=21.97, SD=4.11 and M=12.45, SD=3.43, t=31.21, p=.0001 for the EU, respectively). These findings indicate that the problematic internet users experienced more negative consequences of the internet, used internet to get more social benefit/comfort and used internet more excessively than the non-problematic internet users. Moreover, these results ensure adequate evidence to divide the participants into the two extreme groups, like the problematic and non-problematic internet users.

3.2. Some Demographic Characteristics
In the study, it was examined whether the proportions of problematic and non-problematic internet users varied in terms of their gender, grades and program type attended, as seen in Table 1.

Table 1. Frequencies of the problematic and non-problematic internet users on some demographic characteristics

Variables		Problematic Users		Non-Problematic Users	
		N	%	N	%
Gender	Male	158	57.9	131	34.8
	Female	115	42.1	245	65.2
Grade	First	101	37.4	136	36.4
	Second	69	25.6	88	23.5
	Third	70	25.9	105	28.1
	Fourth	30	11.1	45	12.0
School type	Science	144	65.2	137	41.6
	Social	77	34.8	192	58.4

The results of Pearson chi-square test showed significant differences in terms of gender (Pearson $\chi^2(1,649)=33.98$, p=.000; $\Phi=.22$, p=.000) and program type attended (Pearson $\chi^2(1,550)=29.26$, p=.000; $\Phi=.23$, p=.000), but no significant differences according to grades (Pearson $\chi^2(3,644)=0.69$, p=.87; $\Phi=.03$, p=.88). As seen in Table 1, more male students than female were determined as problematic internet users with the ratio of three male students to two female, approximately. In addition, more students who attend to the programs in the science field were found as problematic internet users than the ones who attend the programs in social sciences field.

According to academic achievement level, independent t test revealed that there is no significant difference between the academic achievement levels of the problematic internet users and non-problematic users (M=2.68, SD=0.51 and M=2.71, SD=0.49, respectively, t=0.81, p=.42).

3.3. Internet Activities

In the study, it was also examined whether the proportions of the problematic and non-problematic internet users vary significantly in terms of the average time spent weekly on the internet per internet activities such as e-mail, searching general information, file transfer, news, shopping, online gaming and chat room. For this reason, the problematic and non-problematic internet users who spend average six and more hours weekly on each internet activities and who never use any of these internet activities were compared as seen in Table 2.

Table 2. Frequencies of the problematic and non-problematic internet users on internet activities

Variables		Problematic Users N	Problematic Users %	Non-Problematic Users N	Non-Problematic Users %
e-mail	Never using	8	19.0	23	71.9
	6 and more hour	34	81.0	9	28.1
Searching general information	Never using	7	6.4	6	12.0
	6 and more hour	102	93.6	44	88.0
File transfer	Never using	30	32.3	73	76.0
	6 and more hour	63	67.7	23	24.0
News	Never using	16	26.7	49	79.0
	6 and more hour	44	73.3	13	21.0
Shopping	Never using	129	87.8	232	96.7
	6 and more hour	18	12.2	8	3.3
Online gaming	Never using	108	75.0	227	96.6
	6 and more hour	36	25.0	8	3.4
Chat rooms	Never using	59	45.7	182	96.3
	6 and more hour	70	54.3	7	3.7

The results of Pearson chi-square test showed significant differences in terms of e-mail (Pearson $\chi^2(1,74)=20.82$, p=.000, $\Phi=.53$, p=.000), file transfer (Pearson $\chi^2(1,189)=36.52$, p=.000; $\Phi=.44$, p=.000), news (Pearson $\chi^2(1,122)=33.60$, p=.000; $\Phi=.52$, p=.000), shopping (Pearson $\chi^2(1,387)=11.55$, p=.001; $\Phi=.17$, p=.001), online gaming (Pearson $\chi^2(1,379)=40.58$, p=.000; $\Phi=.33$, p=.000) and chat rooms (Pearson $\chi^2(1,318)=106.8$, p=.0001, $\Phi=.58$), but no significant differences according to searching general information (Pearson $\chi^2(1,159)=1.42$, p=.23; $\Phi=.10$, p=.23). These findings indicated that the problematic internet users preferred the internet activities such as e-mail, file transfer, news, shopping, online gaming and chat rooms more than non-problematic internet users, and they also spent more time on these activities.

4 Conclusion

The findings of the study revealed that the problematic internet users experienced more negative consequences of internet, used internet to get more social benefit/comfort and use it more excessively than the non-problematic internet users.

According to demographic characteristics, the findings demonstrated that more male students than female were determined as problematic internet users. In the literature, there are various studies showing that more males than females were problematic internet users or addicts [3, 9-16]. These results have confirmed the findings of the current study. A possible explanation of this finding may be that male students prefer communicating with the others and spending time through internet to communicating face to face and spending time in real social activities rather than females. In addition, more male students may have more problematic internet use because of inadequate communication skills, and variety and anonymity of the internet.

The present study revealed that more students who attended the programs in the science field than the ones who attended the programs in social sciences field were found as problematic internet users. This finding is parallel to the finding that vocational school students are more addicted to the internet than high school students [14], but inconsistent with the findings that school type is not a predictor of internet dependence [1].

In the study, it was found that the problematic and non-problematic internet users did not differ in terms of grades. A possible explanation of these findings may be that the main factor in the problematic internet use is the need to use internet, instead of grade variables. All the students may use internet to cope with different developmental tasks and stressors they meet in different grades, as independent from grade level. This finding is consistent with the finding that the university students' pathological internet uses do not differentiate with respect to grade levels [9].

The study showed that problematic and non-problematic internet users did not differ according to academic achievement level. The current finding is inconsistent with the findings in the literature including that problematic internet use affects school performance negatively and causes academic problems [7, 11-14, 17]. A possible explanation may be that problematic internet users generally experience more negative consequences of the internet in daily routines such as limited social relationships or not participating in academic activities outside courses, instead of academic achievement. Consistently, the findings show that using internet for social interactions is a risk factor in development of the problematic internet use [7, 10, 13, 15]. As a result, the findings related to demographic characteristics point out that some demographic factors such as gender and school type attended is a predictor

of problematic internet use, but grade and academic achievement are not important factors on internet use.

Based on the internet activities, the results pointed out that the problematic internet users preferred internet activities such as e-mail, file transfer, news, shopping, online gaming and chat rooms more than non-problematic internet users. These results are consistent with that excessive use may be a distinguishable characteristic of internet dependents [7].

In the literature, various studies found that the hours spent on the internet by the addicts were greater [2], almost twice [14], almost three times [15], four times [11], nearly eight times [7] higher than those of the non-addicts. In addition, it was found that the addicts spend significantly more time on BBSs, the WWW, e-mail and games [15] than non-addicts did. The current findings are consistent with the other findings.

In the present study, there was no significant difference between two groups in terms of searching general information. A reason of this result may be that both problematic and non-problematic internet users use internet to search general information mostly as a necessity of academic activities.

The current findings have some limitations. The study is a descriptive study and inadequate for examining causal relationships. In addition, chi-square test which is non-parametric test was used mostly for statistical comparisons. In the study, extreme groups procedure was used and therefore, the number in the factors of some variable is rather low, especially on some internet activities. Moreover, the study did not include some internet activities such as pornography, gambling. Therefore, future researches also may include different internet activities and online experiences. Further efforts may expand these findings. The results of this study should be interpreted in the light of these limitations.

Consequently, the problematic internet users and non-problematic internet users differ significantly in terms of some demographic characteristics such as gender and scientific program type and some internet activities such as personal e-mail, file transfer, news, shopping, online gaming and chat rooms.

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