AN ANALYSIS OF INTERNET ADDICTION LEVELS OF INDIVIDUALS ACCORDING TO VARIOUS VARIABLES

Cengiz ŞAHİN
Ahi Evran University, Faculty of Education,
Kırşehir, Turkey
csahin@ahievran.edu.tr

ABSTRACT

The concept of internet addiction refers to the excessive use of internet which in turn causes various problems in individual, social and professional aspects. The aim of this study was to determine internet addiction levels of internet users from all age groups. The study used survey model. Study group of the study consisted of a total of 596 people from all age groups. "Personal Information Form" and "Internet Addiction Scale" were used for data collection. Arithmetic mean, standard deviation, independent sampling and t test, ANOVA and LSD tests were performed on collected data. The findings of the study revealed that the individuals had low levels of internet addiction both in sub-scales and in the general of the scale according to age groups. It was found that there was a significant difference between internet addiction scores of the individuals who belonged to the age group of 19 and below and 30 and below. There was a significant difference between the internet addiction scores of students and other professional groups. It was found that internet addiction levels of males were higher than those of females. The results of the study were discussed together with the results of different studies and suggestions were made.

Keywords: Internet, Addiction, Individual

INTRODUCTION

During the years of Cold War, United States of America supported all kinds of inventions to fulfill their military objectives. To achieve this aim, Advanced Research Projects Agency (ARPA) was established in 1958. Today's internet was developed as a result of long studies carried out in ARPA (Musch, 2000). The World Wide Web (WWW) was developed and began to be widespread in 1991 (Hecht, 2001). While number of wide band internet users in Turkey was 18.604 in 2003, it reached 8.7 million by the end of 2010 (Information Technology and Communication Institution, 2011).

Rapid development of computer technology in information society and particularly the invention and advancement of internet led to major changes in human life. Today, thanks to internet, it is possible to shop from virtual stores, to meet new people and make new friends via social networks, to easily access information and sources required for any subject or to be informed about any event that takes place anywhere in the world (Çalık, Çınar, 2009). In addition to many positive effects, it is possible to discuss negative effects of computers, particularly of internet on individuals and society (Çalık, Çınar, 2009; Khasawneh, Al-Awidi, 2008; Kelleci, 2008: Weiner, 1996). Internet addiction might be listed among these negative effects (Chou, Condron, Belland, 2005).

The concept of internet addiction, which was first used by Goldberg in 1995, has recently turned out to be a phenomena, which is tried to be defined through various terms such as "net addiction", "internet addiction", "on-line addiction", "internet addiction disorder", pathologic internet use" and "cyber disorder" (Eichenberg & Ott, 1999). Although there is not a standard definition for internet addiction yet (Chou, Condron, Belland, 2005) the most basic symptoms can be listed as inability to restrict internet use, to continue internet use despite social or academic hazards and feeling a deep anxiety when access to internet is restricted (Öztürk et al, 2007).

Internet addiction is not still defined as a disorder in "Diagnostic and Statistical Manual of Mental Disorders" (also known as "DSM-IV-TR") published by the American Psychological Association in 2000. It was suggested that pathological gambling disorder was viewed as most akin to internet addiction (Köroğlu, 2001; Öztürk et al., 2007). Young, who first introduced the definition of internet addiction and determined the first diagnosis criteria concluded that "pathological gambling" under the title of impulse control disorders in DSM IV was viewed as most akin to internet addiction. Internet addiction does not involve misuse of any substances (Greenfield, 1999: Cited by. Arısoy, 2009).

The concept of internet addiction refers to the excessive use of internet which in turn causes various problems in individual, social and professional aspects. Internet addiction recently began to be analyzed as a psychological problem in association with various psychological problems in the academic world. Particularly educators, psychological counselors, psychologists and psychiatrists tended to carry out various researches on internet addiction (Zimmerl, 1998; Eichenberg and Ott, 1999; Morahan-Martin and Schumacher, 2000; Young, 2006; Ayaroğlu, 2002; Bölükbaş, 2003; Orhan and Akkoyunlu, 2004; Cengizhan, 2005; Esen 2007; Turnalar Kurtaran, 2008). These studies generally investigated the relationship between excessive use of internet and loneliness,

depression, having antisocial values and low emotional intelligence, the relationships with the family, particularly with mother and friends, playing online games, searching and shopping, depressive symptoms, decreased social interaction, psychological well-being of the individual, social, verbal and academic functions.

The literature contains only a limited number of studies which investigated internet addiction levels of different age groups. For this reason, this study aimed to determine internet addiction of internet users from different age groups and thus to produce concrete and applicable solutions to overcome this problem. It is believed that this study differed from other studies in the literature from these aspects.

The main problem of this study was to determine the levels of internet addiction which cause excessive use of internet by the individuals from different age groups and in turn leads to experiencing various problems in individual, social and professional aspects.

Aim of the Study
The aim of this study was to determine internet addiction levels of individuals from all age groups in terms of various variables. To achieve the aim of the study, the following questions were tried to be answered:
1. What are the internet addiction levels of the individuals?
2. Do internet addiction levels of the individuals vary according to age group?
3. Do internet addiction levels of the individuals vary according professional group?
4. Do internet addiction levels of the individuals vary according to gender?

METHOD
Study Model
This is a descriptive study which used survey model. As it is known, survey models aim to indicate an existing situation as they are (Karasar, 1999). In this framework, we tried to determine internet addiction levels of the individuals from all age groups.

Study Group
Population of the study consisted of the individuals living in Kırşehir province of Turkey. Among random sampling methods, simple random sampling method was used to determine the study group. Study group of the study consisted of a total of 596 individuals from different age groups living in Kırşehir city center.
Of the individuals in the study group, 284 (47.7%) were male, 312 (52.3%) were female. As for the distribution of the study group according to age groups; a total of 109 (18.3%) belonged to the age group of 19 and below; 98 (16.4%) belonged to the age group of 20-29;155 (26.0%) belonged to the age group of 30-39; 141 (23.7%) belonged to the age group of 40-49; and 93 (15.6) belonged to the age group of 50 and above. As for the distribution of the participants according to professional status, it was found that 191 (32.0%) were students; 221 (37.1%) worked in various professions; 39 (6.5%) were unemployed; 119 (20.0%) were housewives and 26 (4.4%) were retired.

Study Instruments
"Personal Information Form" and "Internet Addiction Scale" were used for data collection.

Personal Information Form: This form consists of four questions on the data about the independent variables of the study.

Internet Addiction Scale (IAS): The scale, which was designed by Hahn and Jerusalem (2001), aims to determine internet addiction levels of the individuals. The original title of the scale is *"Skala zur Erfassung der Internetsucht"*. The scale was adapted into Turkish by Şahin and Korkmaz (2011).

The scale contains 19 items and 3 factors. The first factor is "Loss of Control-LC"; the second factor is "Tolerance Development-TD" and the third factor is "Negative Consequences for Social Relationships-NCSR"

Kaiser-Meyer-Oklin (KMO) and Bartlett test analyses were performed to test structural validity of the scale. KMO= 0,919; Bartlett test value was x^2= 6087,383; sd=171 (p=0,000). It was found that the items within the scale concentrated on three factors and explained 68.095% of total variance. Confirmatory factor analyses showed that the model had an acceptable adaptation. To calculate discriminative power of items, the correlations between the scores obtained from each item and the scores obtained from the factors were calculated and it was found that each item had a significant and positive relationship with factor score. Internal consistency analyses were conducted to calculate internal consistency of the scale. Analyses revealed that internal consistency coefficients of the factors varied between 0.887 and 0.926 and that internal consistency coefficient for the general of the scale was 0.858.

Data Analysis and Interpretation
Each of the items in internet addiction scale was scaled as Never (1), Rarely (2) Sometimes (3), Generally (4) and Always (5). In parallel with the structure of the scale, for three sub-factors, averages of the response of the individuals to five-item Likert type scale were calculated severally. High averages indicate high level of internet addiction while low averages indicate low addiction levels. The scores obtained from the responses of the individuals to five-item Likert type scale did not show a standard character due to the differences in number of items in the sub-factors. For this reason, obtained raw scores were converted into standard scores (minimum 20; maximum 100).

The levels corresponding to the scores obtained from sub-scales can be summarized as follows: low internet addiction (20-51), mean internet addiction (52-67), high internet addiction (68-100).
In this framework, internet addiction levels of the individuals were analyzed using arithmetic mean, standard deviation, t test, ANOVA and LSD analyses. $p < .05$ level was considered as adequate for the significance between the factors.

FINDINGS
In this section, the findings of the study were presented and evaluated in tables.

1. Internet Addiction Levels of the Individuals

Table 1. Internet Addiction Levels of the Individuals

Variable	N	M	SD	Min	Max	Levels (f/%)					
						Low		Medium		High	
Loss of Control-LC		32,61	17,67	17,14	100,00	510	85,6	38	6,4	48	8,1
Tolerance Development-TD		32,84	17,92	20,00	100,00	511	85,7	46	7,7	39	6,5
Negative Consequences for Social Relationships-NCSR	596	27,01	14,01	17,50	100,00	538	90,3	43	7,2	15	2,5
Internet addiction (Total)		30,30	10,37	18,95	71,58	570	95,6	24	4,0	2	0,3

Table 1 indicates that the individuals in different age groups had a low level of internet addiction in sub-scales and in the general of the scale.

2. Internet Addiction Levels of the Individuals according to Age Groups

Table 2. Means, Standard deviations and Variance Analysis Results of the Internet Addiction Levels of the Individuals according to Age Groups

Age Groups	N	Loss of Control-LC		Tolerance Development-TD		Negative Consequences for Social Relationships-NCSR		Internet addiction (Total)	
		M	SD	M	SD	M	SD	M	SD
>19 age	109	47,31	22,85	31,74	17,46	26,67	14,48	35,35	10,26
20-29 age	98	33,24	17,27	34,69	18,91	29,26	14,78	31,87	10,10
30-39 age	155	28,02	12,70	31,45	17,38	25,32	11,59	27,61	9,33
40-49 age	141	29,99	15,53	34,36	18,67	26,33	13,64	29,37	10,35
50 < age	93	26,39	10,68	32,20	17,13	28,87	16,44	28,66	10,26
Genel Ortalama	596	32,62	17,67	32,84	17,92	27,01	14,01	30,30	10,36

Variable	Source of Variance	Square Total	Degree of Freedom	Mean Square	F	p	Significant difference (LSD)
Loss of Control-LC	Between groups	31436,163	4	7859,041	30,089	,000	the age group of 19 and below – other
	Within	154366,3	591	261,195			

	groups	30					age groups
	Total	185802,493	595				
Tolerance Development-TD	Between groups	1130,806	4	282,702	,879	,476	
	Within groups	189973,682	591	321,444			--
	Total	191104,488	595				
Negative Consequences for Social Relationships-NCSR	Between groups	1337,159	4	334,290	1,710	,146	
	Within groups	115538,040	591	195,496			--
	Total	116875,199	595				
Internet addiction (Total)	Between groups	4513,296	4	1128,324	11,224	,000	the age group of 19 and below – other age groups
	Within groups	59410,652	591	100,526			
	Total	63923,947	595				

Data in Table 2 revealed that internet addiction levels of the individuals who belonged to the age group of 19 and below were higher than those of the individuals who belonged to the age group of 20 and over. An analysis was made to determine whether these differences were significant. The results showed that there was not a significant difference between TD (F(4-591)= .879, P>0.05) and NCSC (F(4-591)= 1.710, P>0.05) scores. It was found that there was a significant difference between LC (F(4-591)= 30.089, P<0.01) and IA general total scores (F(4-591)= 11.224, P<0.01). LSD test was performed to determine the groups which caused difference. LSD test results revealed that there was a significant difference between the internet addiction scores of 19 and below age group and other age groups.

3. Internet Addiction Levels of the Individuals according to Professional Groups

Table 3. Means, Standard deviations and Variance Analysis Results of the Internet Addiction Levels of the Individuals according to Professional Groups

Professional Groups	N	Loss of Control-LC		Tolerance Development-TD		Negative Consequences for Social Relationships-NCSR		Internet addiction (Total)	
		M	SD	M	SD	M	SD	M	SD
Student	191	41,45	21,95	34,63	19,14	28,63	15,13	34,62	10,35
Worker	221	30,20	14,88	34,16	17,69	27,20	14,09	29,77	9,85
Unemployed	39	30,03	11,72	29,87	15,28	22,69	6,62	26,90	7,19
Housewife	119	25,06	10,65	29,62	17,49	25,88	13,99	26,36	10,15
Retired	26	26,70	10,34	27,69	13,13	25,00	11,61	26,19	8,31
Total	596	32,61	17,67	32,84	17,92	27,00	14,01	30,30	10,36

Variable	Source of Variance	Square Total	Degree of Freedom	Mean Square	F	p	Significant difference (LSD)
Loss of Control-LC	Between groups	24150,221	4	6037,555	22,073	,000	between the students and other professional groups
	Within groups	161652,272	591	273,523			
	Total	185802,493	595				
Tolerance Development-	Between groups	3266,126	4	816,532	2,569	,037	housewives, students and

TD	Within groups	187838,362	591	317,831			professional groups
	Total	191104,488	595				
Negative Consequences for Social Relationships-NCSR	Between groups	1498,583	4	374,646	1,919	,106	--
	Within groups	115376,616	591	195,223			
	Total	116875,199	595				
Internet addiction (Total)	Between groups	6353,119	4	1588,280	16,305	,000	between students and other professional groups
	Within groups	57570,829	591	97,413			
	Total	63923,947	595				

Table 3 indicated that internet addiction scores of the students were higher in terms of sub-scales and IA general when compared to other professional groups. An analysis was conducted to determine whether these observed differences were significant. Analysis results showed that the difference between NCSC(F(4-591)= 1.919; P>0.05) scores of the individuals according to professional groups was not significant; while the difference among LC (F(4-591)= 22.073; P<0.01) and TD (F(4-591)= 2.569; P<0.05) and IA (F(4-591)= 16.305; P<0.01) total scores was significant. LSD test was performed to determine the groups which caused difference. LSD test results showed that there was a significant difference between the students and other professional groups in LC sub-dimension; among housewives, students and the individuals who were working in TD sub dimension; between students and other professional groups in IA general total.

4. Internet Addiction Levels of the Individuals according to Gender

Table 4. t Test Results according to Gender of the Individuals

Variable		N	M	SD	DF	t	p
Loss of Control-LC	Male	312	31,98	17,97	594	-,913	,362
	Female	284	33,31	17,33			
Tolerance Development-TD	Male	312	29,15	16,15	594-	5,396	,000
	Female	284	36,90	18,88			
Negative Consequences for Social Relationships-NCSR	Male	312	24,76	12,15	594	-4,148	,000
	Female	284	29,47	15,46			
Internet addiction (Total)	Male	312	28,35	9,95	594	-4,916	,000
	Female	284	32,45	10,39			

It was understood from Table 4 that internet addiction scores of males were higher from those of females in sub-scales (LC, TD and NCSC) and in the general of the scale. An analysis was performed to determine whether these observed differences were significant. Analysis results showed that the difference between internet addiction scores of males and females according to LC subscale was not significant (t(594)=-.913; P>0.05); DFO (t(594)= -5.396),. However, it was found that the difference between internet addiction scores of males and females according to TD (t(594)= -5.396), NCSC (t(594)=-4.148) sub scales and IA general total (t(395)=-4,916) was significant

RESULT AND DISCUSSION
It was found that the individuals had low level of internet addiction in sub-scales and in general of the scale according to age groups. This finding is consistent with literature data. The literature contains various studies carried out in different societies which reported significantly low number of individuals with internet addiction

(Saville et al., 2010; Chaw, Black, 2008). Similar studies found that the majority of the individuals had a low level of internet addiction (Niesing, 2001; Hahn and Jerusalem, 2001).

It was found that internet addiction levels of 19 and below age group was high. It was observed that there was a significant difference between internet addiction scores of the individuals who belonged to the age group of 19 and below and 30 and below. Similarly, Choi et al., (2008) reported that internet addiction was more common among young people, and for this reason, young people should be permanently monitored. Öztürk et al., (2007) reported that internet addiction turned out to be a serious risk factor particularly for 12-18 age group. Hahn and Jerusalem (2001) reported that the individuals belonging to the age group of 20-29 used internet more, while internet addiction scores of the individuals belonging to the group of 19 and below was higher than other groups and that this situation varied according to gender.

It was found that there was a significant difference between internet addiction scores of the students and other professional groups. The study of Seville et al, (2010) conducted on high school students reported that internet addiction of the students who recently started high school was higher than that of other students. Chin-Chung and Sunny (2003) reported similar results.

Internet addiction levels of males were found to be higher than those of females. These findings are supported by the findings of various studies in the literature. In a study carried out by Choi et al., (2008) it was reported that the case of internet addiction was more common in male students when compared to female students. Karaman and Kurtoğlu (2009) found that male pre-service teachers were more addicted to internet than female pre-service teachers. Hahn and Jerusalem (2001) reported that males used internet more when compared to females; however internet use levels of females increased in years.

Internet addiction is described as the use of internet in increasing amounts of time in order to achieve satisfaction. Research shows that Internet addiction results in personal, family, academic, financial, and occupational problems. Because internet addicts by definition will have difficulty moderating their use on their own, therapy techniques can be employed to help them to become more motivated to reduce their use, and to become more conscious of how they get into trouble with the Internet. For this reason, in some countries, therapy centers are founded to identify and treat Internet addiction. Parents need to be aware of the signs of the internet addiction to help their children. For families, schools should organize such seminars as the symptoms of internet addiction, communication techniques, and how to take a proactive stance.

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