

Investigation of Adolescents' Internet Use Motives

A. Aykut CEYHAN*

*Anadolu University, Department of Psychological Counseling and Guidance, Turkey,
aceyhan@anadolu.edu.tr*

Abstract

The study was carried out to determine the internet motives of adolescents. In addition, the relationships between adolescents' internet motives and their gender, academic achievement, duration of internet use, locus of control and problematic internet use levels were investigated. A total of 351 adolescents participated in the study. The findings revealed that adolescents' stated their basic internet motives as obtaining information (18.20%), chatting (17.5%), spending free time/using the internet due to boredom (17.2%), having fun (16.9%), playing games (11.4%), using for both homework and other activities (10.1%), and doing homework (8.8%), respectively. Moreover, the findings pointed out that female adolescents preferred internet to do homework more while male adolescents preferred the internet to play games more. In addition, the adolescents' basic internet motives differed in terms of the duration of internet use, locus of control, and problematic internet use level significantly while there was no significant difference in terms of academic achievement.

Keywords: Internet use, internet addiction, problematic internet use, locus of control, adolescent

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Today, there are a number of problems experienced due to internet use. It is frequently reported that human behavior is influenced by the problems created by internet use. Therefore, besides the problems created by other users, individuals' internet use purposes and their own ways of using the internet play an important role in causing individuals to experience certain Internet-related problems.

In studies carried out on internet use, the internet use motives or purposes are taken as an important variable. Researchers point out that use of the internet for social interactions could be an important risk factor for the development of the problematic internet use symptoms (Caplan, 2002; Ceyhan, 2011; Chak & Leung, 2004; Choi, 2001; Li & Chung, 2006; Young, 1998) and that in general, internet use purposes and identity status are important predictors of problematic internet use (Ceyhan, 2010). As demonstrated by the results these studies, it is obvious that internet use motives are considered as an important factor constituting the basis of the internet-related problems internet users experience.

Today, the extension of the function, time and place of the internet in human life has led to a great increase in the number of internet users. In all societies, there is a gradual increase in the number of internet users and in the duration of their internet use. It is seen that especially in recent years, the duration and functions of internet use have gradually increased among the young as well as among children. Research findings demonstrate that the 38.4% of the age group of 9-12 and 77% of the age group of 13-16 have a profile in social networking sites; that such sites are popular among European children; and that one-third of the individuals from the age group of 9-16 are facebook users (Livingstone, Olafsson, & Staksrud, 2011). As it is for adults, this situation increases the likelihood of experiencing problems due to internet use among the young and among children. Thus, some adolescents are increasingly likely to demonstrate the symptoms of internet addiction or pathological/unhealthy internet use, which may then influence their daily lives (E. Ceyhan, 2008). In this respect, it is believed that internet addiction has become an important risk factor especially for the age group of 12-18 (Öztürk, et. al., 2007).

Although internet use motives differ from one individual to another, they should not be considered independent of the nature or features of individuals' developmental. Especially the internet use motives of children and adolescents are likely to be influenced by the developmental period they are in. As required by the features of the developmental period they are in, children and adolescents try to increase their proficiencies in all aspects and lead their lives in a way to become adults. In this process, it could be stated that they are generally

in need of receiving correct information, transferring what they have learnt into their lives, using their time effectively, encountering with appropriate role models, coping with real-life situations, trying to recognize and develop their own capacities, establishing and sharing satisfactory relationships with the environment. The internet environment can provide children and the young with a number of important opportunities to meet such needs. In addition, it is important that this environment should not be replaced with the real life and its functions. Otherwise, internet use will not be a world of virtual reality for children and adolescents. The internet, if used appropriately, will contribute significantly to their development in all aspects (E. Ceyhan, 2008).

In this way, the internet will become a communication environment and a supportive technological tool for children and adolescents. Therefore, it is fairly important to train children and adolescents as healthy and appropriate internet users. In order help children and adolescents become healthy internet users, their ways of using the internet and related patterns of their internet use should be investigated in the first place.

Purpose of the study

The present study aimed at determining adolescents' internet use patterns. In this respect, first, the adolescents' internet use motives were determined. Following this, the study tried to reveal the relationship between these motives and certain characteristics of adolescents. In line with these purposes, the following research questions were directed:

- What are adolescents' basic internet use motives?
- Do adolescents' internet use motives differ significantly with respect to their gender?
- Do adolescents' internet use motives differ significantly with respect to their level of locus of control, their problematic internet use level, the duration of their internet use and their level of academic achievement?

Method

Participants

The participants of the study were 351 students attending nine different high schools in the central of town of Eskisehir in Turkey. Among these students, 182 of them were male (51.9%), while 168 of them were female students (47.9%). One of the participating students

did not state his or her gender. As for the class grades of the participants, 92 of them were first grade students (26.2%), 94 of them second grade (26.8%), 92 of them third grade (26.2%) and 73 of them were fourth grade students (20.8%). The weekly average internet use durations of the students ranged between 1 hour and 56 minutes with a mean of 11.68 hours (SD=11.02).

Measures

Problematic Internet Use Scale-Adolescent (PIUS-E): This scale was developed as a dimensional scale by Ceyhan and Ceyhan (2009) on the premise that the intensity of Internet use ranges from normal to pathology. The scale includes a total of 27 items, and the scores to be produced by the scale range between 27 and 135. The higher scores to be obtained from the scale demonstrate that individuals use the internet in an unhealthy way; that there are increasing symptoms of problems individuals experience due to unhealthy Internet use; that the Internet influences individuals' lives negatively; and that individuals are likely to suffer from such pathology as internet addiction.

Explanatory and confirmatory factor analyses indicated that scale for adolescents has three sub-factors as negative consequences of the internet, excessive use and social benefit/social comfort. The construct with three factors under the 27 items explained the 49.35% of the total variance. Internal consistency of the scale (α) was found as 0.93. Internal consistency coefficients of the three factors were found as 0.93, 0.76 and 0.78, respectively. These findings pointed out that scale was valid and reliable (Ceyhan & Ceyhan, 2009).

Nowicki-Strickland Locus of Control Scale: The scale was developed by Nowicki and Strickland to evaluate the generalized expectations that the consequences of individuals' behavior are under control of internal or external powers. The scale was structured based on Rotter's definition of internal-external control. The scale was made up of 40 questions that required such responses as "Yes" or "No". The scores to be produced by the scale range between 0 and 40. Higher scores demonstrate that individuals perceive the events as to be independent of their own behavior and as to be under the control of external powers and that they believe they cannot themselves change the result (external control). On the other hand, lower scores show that individuals perceive the events depending on their own behavior and that they are influential on the results (internal control) (Yesilyaprak, 1988).

In relation to the reliability studies of the scale, the test-retest reliability coefficient was found to be .87, and .71 with Kuder Richardson 21 formula. Within the validity studies, expert views revealed content validity. As for the concurrent validity, a correlation coefficient

of -.58 and -.40 was found between the Nowicki-Strickland Locus of Control Scale and Self-Respect and Inner Directed Support of Personal Orientation Inventory Subscales (Yesilyaprak, 1988). In this respect, the Nowicki-Strickland Locus of Control Scale is frequently used in various studies in Turkey for the purpose of determining the locus of control levels of individuals.

Information Questionnaire: The questionnaire was made up of questions directed to the high school students to obtain data regarding their gender, the school type they attended, their class grade and their levels of academic achievement (e.g., what is your average of your overall academic achievement?). In addition, the questionnaire also included open-ended questions to determine the students' internet use behavior such as their Internet use durations (For how many hours a week do you use the internet at average?) and their basic Internet use motives (What is your basic motive for using the Internet?).

Procedure

The research data were collected from the students attending nine different high schools in the central town of Eskişehir. Among all the students participating in the study, 15 of them did not respond to the data collection tools as required. Therefore, the data obtained from these students were not included in the data analysis. For the analysis of the data, Pearson chi-square test statistic (χ^2), one-way analyses of variance with Tukey's HSD post hoc test and Welch Test (followed by Tamhane's T2 Test depending on the results of Welch Test) have been utilized.

In the study, the students' responses to the open-ended question regarding their basic internet use motives were analyzed with the method of content analysis. In line with these analyses, the individuals were classified into seven groups with respect to their basic internet use motives (obtaining information, chatting, spending free time/using the internet due to boredom, having fun, playing games, doing homework, and using the internet both for homework and for other activities). These content analyses were also checked by another expert, and a consensus was reached between the experts. In addition, among the 351 high school students participating in the study, 43 of them did not respond to the question regarding their basic internet use motives. Thus, these 43 students were not included in the analysis process, and the statistical analysis was applied to the data collected from the remaining 308 students.

Results

Findings regarding the adolescents' basic internet use motives

This study aimed at determining the basic internet use motives of adolescents – who were at the high school age. In this respect, as a result of the content analysis of the adolescents' responses, the 'basic motives' groups were determined, and the related frequencies and percentages were calculated to the students' gender. The results are presented in Table 1.

Table 1

Distribution regarding adolescents' basic internet use motives in terms of their gender

Basic internet use motives	Gender				Total	
	Female		Male			
	f	%	f	%	f	%
Obtaining information	32	10.4	24	7.8	56	18.2
Chatting	31	10.1	23	7.5	54	17.5
Spending free time / using the internet due to boredom	19	6.2	34	11.0	53	17.2
Having fun	25	8.1	27	8.8	52	16.9
Playing games	6	1.9	29	9.4	35	11.4
Using for both homework and other activities	15	4.9	16	5.2	31	10.1
Doing homework	19	6.2	8	2.6	27	8.8

As can be seen in Table 1, when the distribution of the adolescents' basic internet use motives were examined in general, it was seen that the adolescents' basic internet motives were obtaining information (18.20%), chatting (17.5%), spending free time/using the internet due to boredom (17.2%), having fun (16.9%), playing games (11.4%), using for both homework and other activities (10.1%) and doing homework (8.8%), respectively. This finding demonstrates that adolescents use the internet at most for such motives as obtaining information, chatting, spending free time/using the internet due to boredom and having fun, and at least for such motives as using for both homework and other activities and doing homework.

The study also examined whether the adolescents' basic internet use motives differed significantly with respect to their gender. When the data presented in Table 1 were analyzed with chi square statistics, it was seen that the adolescents' basic internet use motives differed significantly depending on their gender (Pearson $\chi^2(6,308) = 25.69, p=.000; \Phi=.29, p=.000$). As can be seen in Table 1, the findings pointed out that although the rates of the other internet

motives of the male and female adolescents were similar, the female adolescents preferred the internet mostly to do homework, while the male adolescents preferred the internet mostly to play games.

Findings regarding the adolescents' levels of locus of control with respect to their basic internet use motives

The study also examined whether there was a significant difference between the adolescents' mean scores of the locus of control with respect to their basic internet use motives. In this respect, because the Levene test variances were homogenous [$F(6,301) = 1.31, p = .25$], the one-way analyses of variance with Tukey's HSD post hoc test was conducted. The results of the analysis was found significant [$F(6,301) = 2.76, p < .013, \eta^2 = .05$] and the following Tukey-HSD test results revealed a significant difference only between the mean scores regarding the basic motives of playing games and obtaining information ($M = 15.97$ and $M = 12.29$, respectively) ($p < .05$). As for the paired comparisons of the other possible basic motives, no significant difference was found. This finding demonstrates that the locus of control levels of the adolescents using the internet for the basic motive of playing games were higher than those of the adolescents using the Internet for the basic motive of obtaining information. In other words, it could be stated that the adolescents using the internet for the basic motive of playing games are more likely to have external control.

Findings regarding the adolescents' problematic internet use with respect to their basic internet use motives

The study examined whether there was a significant difference between the mean scores of the adolescents' problematic internet use with respect to their basic internet use motives. For this purpose, because the Levene test variances were not homogenous [$F(6,301) = 3.27, p = .01$], the Welch test results were taken into consideration as an alternative to one way analysis of variance. The results were found significant [Welch Test: $F(6,119) = 4.79, p < .001$], and the following Tamhane's T2 test was applied. The test results revealed significant differences between the problematic internet use mean score of the basic motive of playing games and the problematic internet use mean scores of the two basic motives of obtaining information and doing homework ($M = 66.91, M = 47.91$ and $M = 49.55$, respectively) ($p < .05$). In addition, the differences between the mean scores of the basic motives of chatting and obtaining information (as can be seen in Table 2; $M = 58.70$ and $M = 47.91$) was found

significant ($p < .05$). However, the paired comparisons of the other possible basic motives did not reveal any significant difference.

This finding demonstrates that the problematic internet use levels of the adolescents who used the internet for the basic motive of playing games were higher than the problematic internet use levels of the adolescents who used the internet for the basic motives of obtaining information and those of the adolescents who used the internet for the basic motive of doing homework. In other words, depending on this finding, it could be stated that they were more likely to have the symptoms of problematic internet use. Similarly, the finding also revealed that the adolescents who used the internet for the basic motive of chatting were more likely to have the symptoms of problematic internet use than those who used the internet for the basic motive of obtaining information.

Findings regarding the duration of the adolescents' internet use with respect to their basic internet use motives

The study also examined whether the weekly average internet use durations of the adolescents (hour) differed significantly with respect to their basic internet use motives. For this purpose, the Welch test results were taken into consideration because the Levene test variances were not homogeneous [$F(6,280) = 4.39, p = .01$]. The results of this test were found significant [Welch Test: $F(6,108) = 3.69, p < .01$]. The following Tamhane's T2 test results revealed significant differences between the internet use duration regarding the basic motive of playing games and the internet use durations regarding the basic motives of obtaining information, doing homework, and using for both homework and other activities (as can be seen in Table 2; $M = 19.63, M = 8.64, M = 7.25$ and $M = 8.75$, respectively) ($p < .05$). This finding demonstrates that the internet use durations of the adolescents who used the Internet for the basic motive of playing games were higher than those of the adolescents who used the internet for the basic motives of obtaining information, doing homework, and using for both homework and other activities. In other words, based on this finding, it could be stated that the adolescents who used the internet for the basic motive of playing games spent more time using the internet.

Findings regarding the academic achievement levels of the adolescents with respect to their basic internet use motives

The study examined whether there was a significant difference between the average academic achievement levels of the adolescents in terms of their basic internet use motives. For this purpose, one way analysis of variance was applied because the Levene test variances were homogenous [$F(6,253)= 1.39, p= .21$]. The results were not found significant [$F(6,253) = 1.28, p=.27$] pointing out that the academic achievement levels of the adolescents did not differ significantly with respect to their basic internet use motives. This finding demonstrated that there was no significant difference between the academic achievement levels of the adolescents in terms of their basic internet use motives.

Discussion

It was found out in the study that the adolescents used the internet at most for the basic motives of obtaining information, chatting, spending free time/using the internet due to boredom and having fun and at least for the basic motives of using for both homework and other activities and doing homework. This finding demonstrates that most of the adolescents' basic internet use motives included obtaining general information, communication, spending free time and entertainment. This finding is consistent with the finding of a study which reported that adolescents use the internet primarily for entertainment purposes and secondarily for the purpose of searching for information (Tsai and Lin, 2003; Yang and Tung, 2007) and with the findings of another study which reported that adolescents use the internet mostly for the purpose of playing games and secondarily for the purposes of seeking general information and chatting (Yolga Tahiroğlu et. al., 2008). These findings are similar to the findings of a study which reported that 38.4% of the age group of 9-12 and 77% of the age group of 13-16 have a profile in social networking sites; that these sites are popular among European children; and that one-third of individuals from the age group of 9-16 are Facebook users (Livingstone, Olafsson, & Staksrud, 2011).

Naturally, these findings have indicated that internet use has become an important risk factor for the healthy development of adolescents. Thus, research findings point out that using the internet for social interaction purposes is an important risk factor for problematic Internet use (Caplan, 2002; Ceyhan, 2011; Chak & Leung, 2004; Choi, 2001; Li & Chung, 2006; Young, 1998) and that internet use purposes and identity statuses are important predictors of problematic Internet use (Ceyhan, 2010).

In the study, it was seen that the rate of the adolescents using the internet for the motive of playing games was 11.4%. Generally, the rate of the adolescents who used the internet for the motive of playing games was low, yet certain characteristics of the adolescents using the Internet for the motive of playing games differed from those of the adolescents using the Internet for other Internet use motives. These findings demonstrate that male adolescents prefer to play games when online, while female adolescents tend to do their homework. Based on this finding, it could be stated that the internet use motives of male and female adolescents could differ and that male adolescents prefer to play games. In the present study, 74.29% of the adolescents who reported the motive of playing online games were male adolescents. In another similar study, it was found out that 81% of online gamers are male internet users (Griffiths, Davies, & Chappell, 2004). Today, the game industry in the internet environment has developed at an incredible speed, and playing games when online has become an important motive for using the internet. There is a gradual increase in the number and type of online games, and accordingly, the time spent on playing these games is increasing as well. Researchers state that for a number of gamers, the social aspect of a game is the most important factor in playing that game (Griffiths, et al., 2004). As a support to these findings, research findings reveal that males use the Internet to get social benefit/social comfort more than females do. (E. Ceyhan, 2007). In this respect, there is a need for detailed examination of the motives that cause male adolescents to prefer playing online games.

In the study, it was found out that the adolescents who used the internet for the basic motive of playing games had more external control than those who used the internet for the basic motive of obtaining information. As a support to this finding, studies revealed that internet addiction has a negative relationship with internal control and a positive relationship with external control (Chak & Leung, 2004) and that individuals with external control and those with antisocial tendencies are more likely to have problematic internet use behavior (Ceyhan & Ceyhan, 2007a). In this respect, it is reported that individuals with internal control can control their internet use, while those with external control are likely to fail to control their internet use; that individual with external control tend to stay online for a longer period of time than they actually want; and that these individuals with external control are likely to experience such problems as important relationships or jobs and important opportunities related to their education or career due to their internet use (Chak & Leung, 2004). Therefore, individuals with external control may have more difficulty controlling themselves. As a result of this lack of control, they tend to use the internet more for various motives such as playing

games and entertaining themselves. These findings demonstrate that individuals who use the internet for the motive of playing games have more external control. These findings have also revealed that there is a need for examining the type of such online games. There are quite a lot of different types of games on the internet. For example, individuals with external control tend to play violence games because findings point out that individuals with external locus of control exhibit more aggressive tendencies than those with internal locus of control (Köksal, 1991).

In the study, the findings demonstrated that the adolescents who used the internet for the basic motives of playing games and chatting were more likely to have symptoms of problematic internet use than those who used the internet for the basic motive of obtaining information. These findings are consistent with the findings of other studies reported in related literature. Researchers reported in their studies that using the internet primarily for having fun and communicating with others was a significant factor in problematic internet use (Ceyhan & Ceyhan, 2007b); that problematic internet users use the internet mostly for having fun, feeling relaxed and spending free time (Choi, 2001; Morahan-Martin, & Schumacher, 2000; Weitzman, 2000); and that healthy Internet users use the Internet mostly for searching information (Chak & Leung, 2004; Whang, Lee, & Chang, 2003; Young, 1998). In this respect, the adolescents' internet use motives of playing games and chatting could be an important factor for problematic internet use.

In the study, the adolescents using the internet for the basic motive of playing games were found to use the internet for longer durations than those using the internet for such basic motives as obtaining information, doing homework and using for both homework and other activities. These findings are consistent with the findings of another study which reported that problematic internet users spend more time on internet activities such as e-mail, file transfer, news, shopping, online games and chat rooms except for searching for general information (A. Ceyhan, 2007). In addition, these findings are also consistent with the finding of another study which reported that using the internet for more than 12 hours a week had a relationship with chatting and playing games as well as with the combination of these two motives and that not using the internet or using it for one or two hours a week had a relationship with searching for general information and school-related activities (Yolga Tahiroğlu et. al., 2008). Based on these findings, it could be stated that adolescents use the Internet mostly to playing games.

In the study, it was found out that the adolescents' academic achievement levels did not significantly differ with respect to their basic internet use motives. Studies did not reveal any significant difference between the problematic or non-problematic internet use behavior and academic achievement (A. Ceyhan, 2007). This finding demonstrates that adolescents' basic internet use motives are likely to have relationship with other factors except for academic achievement. Another finding of the present study revealed that adolescents with the internet use motives of playing games and chatting are more likely to have problematic internet use.

Conclusion

The research findings point out that the adolescents stated various basic internet motives such as obtaining information, chatting, spending free time/using the internet due to boredom, having fun, playing games, using for both homework and other activities, and doing homework, respectively. In the study, it was found out that in general, most of the adolescents playing online games was male and had external control and that they were more likely to have higher levels of problematic internet use and longer durations of internet use. In addition, considering the adolescents' basic internet use motives, no significant difference was found with respect to their academic achievement levels. These findings demonstrate that the motive of playing games could be an important risk factor for the adolescents' internet use behavior. Studies report that addiction to online games has a relationship with various negative life outcomes (Peng & Liu, 2010). Therefore, there is a need for detailed examination of the adolescents' internet use motive of playing games. In the present study, due to the low number of the participants, no multiple comparisons were made. Furthermore, investigating adolescents' internet use motive of playing games specifically in larger groups could help clearly determine the patterns related to adolescents' internet use motives.

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