*Extended Abstract*

# Investigating Adolescents' Behaviors on the Internet and Problematic Internet Usage[*]

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## Abstract

This research aims to define adolescents' general Internet usage and online gaming behaviors and to investigate their problematic Internet usage levels in terms of these behaviors. Moreover, the research intends to examine the relationships among duration of general Internet usage, duration of online gaming, problematic Internet usage levels, and procrastination, as well as qualitatively define adolescents' opinions about the Internet. In the research, the study group consists of 1,088 high-school students. Data was collected by means of the Problematic Internet Usage Scale-Adolescent, General Procrastination Scale, Academic Procrastination Scale, and Personal Information Questionnaire. According to the research results, adolescents' average duration of daily Internet usage is 3.42 hours and the longer the Internet is used for, the higher their levels of problematic Internet usage. Adolescents use the Internet most commonly on their cellphones, and cellphone users have higher problematic Internet usage levels. Adolescents use the Internet mainly "to have fun – pass time," and those who use the Internet for these purposes have higher problematic Internet usage levels. A low-level and positively significant relationship exists for problematic Internet usage levels with general procrastination and academic procrastination. Furthermore, adolescents mostly see the Internet as "a tool for obtaining information". They mostly state the Internet's positive effect as "Internet lets me obtain information" and its negative effect as "causing me to waste time".

## Keywords

Problematic Internet usage • Internet addiction • General procrastination • Academic procrastination • Adolescent

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Today, problems resulting from unchecked and excessive Internet use are increasing, as observed in the length of time it is used among adolescents. Accordingly, adolescents experience these problems because the Internet easily attracts them in particular (Ceyhan, 2011). This situation has caused researchers to direct their attention to adolescent Internet usage and its negative effects. Thus, the fact that Internet addiction turns out to be a significant risk especially for those between the ages of 12 and 18 comes into question (Öztürk, Odabaşıoğlu, Eraslan, Genç, & Kalyoncu, 2007), and unhealthy Internet usage may result in negative effects on adolescent development (Ceyhan & Ceyhan, 2011). Transforming friendships established in a cyber environment into face-to-face relations isn't always possible (Bayraktar, 2013). Therefore, cyber friendships established online between adolescents can inhibit development of their communication skills and lead them to have inappropriate friendships (Ceyhan, 2008). In addition, adolescents can show aggressive attitudes and behaviors towards their friends and teachers as a result of being affected by violent games and visual content on the Internet (Cansever, 2013). Negative Internet usage may cause an individual to suffer from depression, loneliness, and weakened relations with one's social environment (Bargh & McKenna, 2004; Subrahmanyam & Lin, 2007). Thus, weak social relations may result for an adolescent with insufficient social support for any problems he/she may face in real life. Because the Internet provides adolescents with ready-made information, it can inhibit their cognitive skills development. When adolescents don't use the Internet healthily, they may also have negative experiences in their academic environment. Adolescents who are continually busy with the Internet can skip class; delay doing their homework; and postpone their daily routine, school-related tasks, and responsibilities (Young, 1998, as cited in Esen, 2010). Hence, Internet usage may hinder some adolescents' academic lives, leading them to have various problems with their families and experience negative family relations rather than their family's support for academic activities in terms of cognitive development (Ceyhan & Ceyhan, 2011). In this framework, one should consider the Internet to be negatively related to adolescents' academic performance, social relations, and emotional well-being, though it can be an important information source for them (Goswami & Singh, 2016).

Much research exists in the literature on determining problematic Internet usage by adolescents/high school students. The relationship between problematic Internet usage and academic success has also been investigated in these studies, and research results put forth that the higher one's level of problematic Internet usage is, the lower their academic success (Altuğ, Gencer, & Ersöz, 2011; Bayhan, 2011; Eldeleklioğlu & Vural-Batık, 2013; Esen, 2010; Gamez-Guadix, Calvete, Orue, & Las Hayas, 2015; Gross, 2004; İnan 2010; Nalwa & Anand, 2003; Stavropoulos, Alexandraki, & Motti-Stefanidi, 2013; Taçyıldız, 2010; Toraman, 2013). Other research also exists in the literature that examines the relationship between problematic Internet usage and

online gaming. One can see that those who use the Internet for gaming and chatting have higher Internet addiction scores (Derin, 2013; Gökçearslan & Günbatar, 2012; Günüç & Doğan, 2013; İnan, 2010; Yılmaz, 2013; Yılmaz, Şahin, Haseski, & Erol, 2014). Furthermore, Doruk (2007) found that 60% of adolescents play single-player games and 33% prefer strategy games, 27% prefer war games, and 17% prefer games of chance in terms of theme; these adolescents prefer playing online games within the time they have allocated for sports and play.

As technology develops, individuals fail to fulfill their responsibilities within time constraints, postponing their responsibilities and being harmed as a consequence. Following this condition, the relationship between procrastination and the Internet has begun being investigated. In this framework, procrastination can negatively affect an individual's life. Academic procrastination, which expresses the postponing of tasks in academic life in particular, can lead an individual to have negative academic experiences. According to Aydoğan (2008), fear of failure in academic life can result in the behavior of academic procrastination. Furthermore, the probability of academic procrastination may increase depending on factors such as irrational thoughts, unrealistic expectations, fear of failure, anxiety, work habits, academic success, decision making styles, external focus of control, and incorrect cognitive attributions to the environment (Balkıs, 2006; Balkıs, Duru, Buluş, & Duru, 2006; Brownlow & Reasinger, 2000; Deniz, Tıraş, & Aydoğan, 2009; Haycock, McCarthy, & Skay, 1998; Senecal, Koestnar, & Vallenard, 1995; Tanrıkulu, 2013; Yıldırım, 2011). Additionally in the research made by Çetin, Pamuk, and Donmuş (2015), adolescents' problematic cellphone usage was found to be directly related to academic procrastination, and Internet addiction has a partial mediating effect on this relationship. Excessive/problematic use of technology by adolescents is said to negatively affect their academic lives. Likewise, Çavdar and Mutlu (2011) found a positive relationship between university students' Internet addiction levels and academic procrastination. Moreover, one can come across studies in the literature showing that general procrastination and academic procrastination are interrelated, and students with a tendency towards general procrastination have a tendency towards academic procrastination (Çakıcı, 2003; Yıldız, 2015).

In Turkey, the Turkish Statistical Institute's (2015) research findings from the last three months of 2014 show that the highest computer and Internet usage rates are observed in 16-24 age group (77%), followed by the 25-34 age group (71.70%). These findings indicate that Internet usage is quite widespread among adolescents and youth. Therefore its negative effects may increase as Internet usage expands more and more among adolescents. This situation can cause problematic Internet usage (Ceyhan, 2014). In addition, that adolescents comprise an important risk group in terms of problematic Internet usage and Internet addiction is remarkable as it takes

into account the developmental characteristics of adolescence and the developmental tasks. Hence, youths between 12 and 18 are an at-risk group, and 3.6% of adolescents exhibit the profile for Internet addiction, while 21.8% are on its edge (Şimşek, Akça Kılıç, & Şimşek, 2015). In this context, examining adolescents' Internet usage patterns and problematic Internet usage behaviors, as well as the relationships of their characteristics with these patterns and behaviors in this regard needs to be revealed as they comprise a significant risk group. Increasing research on this issue will be able to contribute to making preventive and protective studies and to taking the necessary precautions for adolescents' healthy Internet use. In an effort to achieve this and contribute to research results in the literature, this study aims to describe adolescents' behaviors on general Internet usage and online gaming, as well as to examine whether problematic Internet usage behaviors show a significant difference in terms of these. Additionally, this study investigates the relationships of problematic Internet usage levels with general and academic procrastination. Finally, the study aims at qualitatively revealing adolescents' general opinions about the Internet.

## Method

### Participants

The participants of the research consisted of 1,088 students from 16 high schools in the 2014-2015 academic year. These high schools were selected through the cluster sampling method from among public high schools in the central districts of Odunpazarı and Tepebaşı in Eskişehir Province in Turkey and are representative of the high school types in these districts. In the study group, 454 students (41.7%) are male and 634 (58.3%) are females; 346 (31.8%) are in the 9th grade, 307 (28.2%) are in the 10th grade, 222 (20.4%) are in the 11th grade, and 213 (19.6%) are in the 12th grade. The students in the study group comprise 2.9% of all students attending high schools in Eskişehir.

### Measures

**Problematic Internet Usage Scale-Adolescent.** The Problematic Internet Usage Scale-Adolescent (PIUS-A), composed of 27 items, was developed by Ceyhan and Ceyhan (2014) as a result of validity and reliability studies made on high school students to determine adolescents' levels of problematic Internet usage behaviors. The scale items were scored through a five-point rating as "Not appropriate at all" (1), "Rarely appropriate" (2), "Maybe appropriate" (3), "Quite appropriate" (4) and "very appropriate" (5). The lowest score that can be obtained from the scale is 27, while the highest score is 135. Higher scores obtained from the scale indicate an unhealthy increase in adolescent's problematic Internet usage. Factor analyses were

made to measure the validity of PIUS-A, which was found to be composed of three dimensions: the negative consequences of the Internet, of excessive use, and of social benefit/comfort. The overall internal consistency coefficient for the scale was found as .93 (Ceyhan & Ceyhan, 2014). The internal consistency coefficient related to the measurement obtained in the scope of this research was found as .91.

**General Procrastination Scale.** Çakıcı (2003) developed this scale to determine high school students' general procrastination tendencies; in other words, whether they procrastinate their daily routine or not. The scale is composed of 18 items, 11 of which are negative and 7 of which are positive. The items in the scale are answered with "It doesn't reflect me" (1), "It reflects me very little" (2), "It reflects me a little" (3), "It often reflects me" (4) and "It fully reflects me" (5). The lowest and highest scores that can be obtained from the scale are 18 and 90, respectively. Higher scores indicate the individual has a tendency towards general procrastination. The General Procrastination Scale is seen to have two factors as a result of factor analyses: effective use of time and procrastination. The fact that the scale explains 32,96% of variance before rotation and 41,96% variance after rotation indicates the scale can be used as a unidimensional scale. This is how the scale has been used in this research. The test-retest reliability coefficient of the scale has been found as .82 (Çakıcı, 2003). The internal consistency coefficient for measurement within the scope of this research has been obtained as .61.

**Academic Procrastination Scale.** The scale, developed by Çakıcı (2003), is composed of 19 items that include tasks students are supposed to fulfill (studying lessons, preparing for exams, doing homework, etc.); 12 items are negative while 7 are positive. The items in the scale are answered as "It doesn't reflect me" (1), "It reflects me very little" (2), "It reflects me a little" (3), "It often reflects me" (4), and "It fully reflects me" (5). The lowest and highest scores obtainable from the scale are 19 and 95, respectively. High scores on the scale indicate a student with a tendency towards academic procrastination. The internal consistency/reliability coefficient for the academic procrastination scale is found as .92 (Çakıcı, 2003). Its internal consistency coefficient within the scope of the research is found as .62.

**Personal information questionnaire.** This questionnaire was prepared by the researcher. This questionnaire aims to acquire information about participating students' gender, age, GPA, duration of daily Internet usage, tool for using the Internet, purpose for using it, whether students play online games or not, what type of online games, with how many people and time spent gaming daily, as well as general/positive/negative opinions about the Internet.

## Procedure

Permission was obtained from the Eskişehir Provincial Directorate of National Education for carrying out the research in the spring semester of the 2014-2015 academic year. Students were given information about the purpose of the study and how to fill out the scale before beginning the application. The implementation was made by taking into account students' voluntary participation in the research, in which 1,504 students participated. However, after data collection, 300 students were found to have not completed the scale in line with instructions, and thus their data were excluded from the research. Moreover, the data from 116 students was determined to have extreme values and as a result were not included in the analysis. The remaining data was analyzed using descriptive statistics, Pearson correlation analysis, and variance analysis. In addition, the researchers performed a content analysis of the responses to questionnaire's open-ended questions. In this framework, the first researcher thematized responses in terms of content, over which the second researcher carried out a reliability evaluation. The significance level was determined to be .05. In evaluating Pearson's correlation coefficients, Cohen's (1988, as cited in Pallant, 2013) criteria of small (.10 to .29), medium (.30 to .49), and large (.50 to 1.00) sizes has been taken into account.

## Findings

### Adolescents' General Internet Usage and Levels of Problematic Internet Use

**Adolescents' average duration of daily Internet usage and its relationship to problematic Internet usage levels.** The research aims to determine adolescents' average duration of daily Internet usage. The descriptive statistics obtained in line with this aim show that adolescents' average duration of daily Internet usage ranged from a minimum of 30 minutes to a maximum of 15 hours. Adolescents' average duration of daily Internet usage was found as 3.42 hours, and standard deviation was found as $SD = 3.03$. Furthermore, with regard to the adolescents' average duration of daily Internet usage, it was found that the first group including 25% of the adolescents (n = 463) used Internet for two hours or less on average per day; the second group including 25% of the adolescents (n = 173) used Internet for three hours or less on average per day; the third group including 25% of the adolescents (n = 224) used Internet for five hours or less on average per day and the last group including 25% of the adolescents (n = 210) used Internet for more than five hours on average per day.

The relationship of the average duration of daily Internet usage with problematic Internet usage levels has also been determined in the research. Pearson correlation analysis results reveal a positive significant relationship at a medium (r = .35, $p <$ .001), between these variables. This result is important because it gives an idea that the problematic Internet usage level increases as the Internet usage duration increases.

**Adolescents' most commonly used tools for connecting to the Internet and problematic Internet usage levels in terms of these tools.** According to the research results, 77.02% of adolescents are found to use the Internet on cellphones as the first rank ($n = 831$); 12.23% use desktop computers as the second rank ($n = 132$), and 9.64% on portable computers as the third rank ($n = 104$). Upon examining the obtained findings, one can remark that more than 75% of adolescents use the Internet on cellphones.

The study intends to determine whether adolescents' problematic Internet usage scores differ depending on the tools they most commonly use for connecting to the Internet. When examining the obtained results within this scope, adolescents' mean score of problematic Internet usage levels who use a desktop computer is found ranked first ($M = 68.06$). This group is followed by adolescents using cellphones ranked second ($M = 66.85$), and those using the Internet on portable computers ranked third ($M = 61.22$). Whether these mean scores differ significantly was investigated using one-dimensional variance analysis. For this purpose, firstly score variances were found homogeneous through the Levene test [$F(2.1064) = .84$, $p = .43$], then one-way variance analysis was performed. The results of univariate analysis reveals a significant difference between the groups with regard to tools most commonly used to connect to the Internet [$F(2.1064) = 3.11$, $p = .04$]. The source of this difference was determined using the Tukey HSD test, and the difference of mean scores for adolescents' problematic Internet usage who use the Internet on cellphones ($M = 66.85$) from those using it on portable computers ($M = 61.22$) was found to be significant. On the other hand, no significant difference exists in the mean scores of adolescents' problematic Internet usage use desktop computers with those using cellphones or portable computers.

**Adolescents' primary reason for connecting to the Internet and problematic Internet usage levels in terms of these reasons.** According to the results, the group with the highest mean score of problematic Internet usage with regard to adolescents' primary reason for connecting to the Internet are those who use the Internet to have fun/pass time ($M = 68.90$). The group with the second highest mean score are those who use it to communicate ($M = 68.39$), and the group with the third highest mean score are those who use it to obtain information ($M = 53.89$).

Whether these mean scores differ significantly was examined through one-way variance analysis. For this aim, scores variances were first found homogeneous using the Levene test [$F(2.1042) = 1.76$; $p = .17$], after which one-way variance analysis was performed. These analysis results reveal a significant difference among the groups' problematic Internet usage scores in terms of the primary reason for connecting to the Internet [$F(2.1042) = 31.04$; $p = .001$]. Next, in order to find the

source of this difference among groups, the Tukey HSD test was performed, and problematic Internet usage levels for adolescents who do it to have fun/pass time (M = 68.90) or communicate (M = 68.39) significantly differed ($p < .001$) from those who used the Internet to obtain information (M = 53.89).

### Adolescents' Online Gaming Behaviors and Problematic Internet Usage

**Adolescents' online gaming and problematic Internet usage levels in terms of online gaming.** Of the adolescents, 75.5% ($n = 821$) play online games, whereas 24.5% ($n = 266$) do not. Thus, one can say that three out of four adolescents play online games. This result shows that online gaming is quite common among adolescents. Moreover, problematic Internet usage scores with respect to online gaming were compared using the *t*-test for independent groups. Analysis results put forth that adolescents' problematic Internet usage scores show a significant difference depending on their online gaming behaviors ($t = 5.56$, $p = .001$). Hence, adolescents' mean score for problematic Internet usage who play games on the Internet was revealed to be significantly higher (M = 68.61) than that those who do not (M = 59.71).

**Adolescents' daily average time spent online gaming and its relationship to their problematic Internet usage levels.** Adolescents' average time spent daily gaming online was determined in the research. For this, adolescents were asked how many hours they spent on average per day playing games on the Internet. According to the findings obtained in this scope, this time ranged from a minimum of 15 minutes to a maximum of 11 hours. The mean and standard deviation of adolescents' average duration spent online gaming daily were found to be M = 1.74 and *SD* = 1.66, respectively. With regard to this time spent online, it was found that the first group including 25% of the adolescents (n = 158) and the second group including 25% of the adolescents (n = 9) played games on Internet for 1 hour or less on average per day; the third group including 25% of the adolescents (n = 335) played games on Internet for two hours or less on average per day and the last group including 25% of the adolescents (n = 256) played games on Internet for more than two hours on average per day. As the average duration of daily online gaming of the last group including 25% of the adolescents are examined, it is seen that 7.14% (n = 56) of the group spares five hours or more on average per day to play games on Internet. This finding is remarkable because the duration in which these adolescents play games on Internet wis three times longer than the mean of the duration of daily online gaming (M = 1.74).

In the research, a medium-level ($r = .31$, $p < .001$), positively significant relationship exists between the adolescents' average duration of daily online gaming and their problematic Internet usage levels. This result is essential as it gives an idea that the longer the duration of online gaming, the higher the problematic Internet usage.

**Number of online gamers an adolescent plays with and the level of problematic Internet usage in terms of this number.** In the research, the adolescents were asked a close-ended question about which games they prefer in terms of the number of online gamers they play with (single player, two player, and three or more players). At the end of analysis, adolescents were found to mostly prefer single-player online games (56.5%), followed by online games with three or more players (35.63%). The least preferred online games were seen to be two-player games (7.88%). As such, more than half of the adolescents were determined to prefer single-player online games. Based on this finding, it can be expressed that the adolescents played the online games which they preferred on their own and thus preferred the individual online games.

The research's intention here is to discover whether adolescents' problematic Internet usage scores significantly differ in terms of the number of gamers they played with on Internet. In this framework, the aim is to perform a one-way variance analysis to examine whether the observed means differ significantly or not. However, Welch test results need to be taken into account because the variances aren't homogenous [F(2.797) = 5.22, $p$ = .006]. Welch test results were found to be significant at the end of the analysis [Welch Test: F(2.168) = 6.92, $p$ = .001]. Next, Tamhane's test was used in order to determine the source of the significance in difference between the groups established on the number of players in online games. According to the test results, the difference between the mean score for problematic Internet usage of adolescents playing online games with three or more players (M = 72.83) and the mean score for problematic Internet usage of those playing single-player games (M = 67.03) was found significant. On the other hand, no significant difference between the mean score for problematic Internet usage of those playing single-player games (M = 67.03) and the mean score of those preferring two-player games (M = 65.72). Similarly, no significant difference was found between the mean score for problematic Internet usage of those playing two-player games (M = 65.72) and the mean score for problematic Internet usage of those preferring games played with three or more players (M = 72.83). These findings reveal that adolescents' who play online games with three or more players have higher problematic Internet usage levels than adolescents who prefer single player games. In other words, one can say adolescents who prefer the group online games played with three or more gamers are more likely to have problematic Internet usage.

**Adolescents' most preferred online games in terms of game theme and their problematic Internet usage levels connected to this.** The research aims to find out what type of online games adolescents play in terms of game theme. According to the findings, adolescents playing online games mostly play strategy games (41.44%) with regard to game themes (strategy, intelligence, racing, soccer, battle).

Adolescents who play intelligence game rank second at 22.04%. These two themes are followed by racing games at 14.11%. Adolescents playing soccer rank third at 10.58%. According to these results, one can say that almost half of the adolescents playing online games play strategy games. Moreover, the strategy game most played by adolescents is played almost twice as much as the second-ranked game type.

The research intends here to determine whether adolescents' problematic Internet usage scores significantly differ based on the themes of the online games they played. In this framework, whether adolescents' mean score for problematic Internet usage significantly differs in terms of game theme has been investigated through one-way variance analysis. Variances of the scores were found homogenous prior to the analysis [$F(4.727) = 2.34$, $p = .054$] and the analysis was carried out. This revealed no significant difference between groups with regard to online-game theme [$F(4.727) = 2.104$; $p = .08$]. Hence, adolescents' problematic Internet usage is revealed to not significantly differ in terms of online game themes [$F(4.727) = 2.104$; $p = .08$]. Therefore, one can say that the online game theme is not a significant factor in adolescents' problematic Internet usage behaviors.

### Relationships among Adolescents' Average Duration of Daily Internet Usage, Average Duration of Daily Online Gaming, Problematic Internet Usage Levels, General Procrastination Levels, and Academic Procrastination Levels

The research here intends to examine the relationships among adolescents' average durations of daily Internet usage and daily online gaming, problematic Internet usage levels, and general procrastination and academic procrastination levels. Within this scope, a medium-level, significant, and positive relationship is found between adolescents' average duration of daily Internet usage and average duration of daily online gaming ($r = .43$; $p < .001$). Similarly, a medium-level, significant, and positive relationship is also found between adolescents' average duration of daily Internet usage and problematic Internet usage ($r = .35$, $p < .001$). Moreover, a medium-level, significant, and positive relationship is found between adolescents' average duration of daily online gaming and problematic Internet usage ($r = .31$; $p < .001$). No significant relationship is observed between adolescents' average duration of daily Internet usage and general procrastination levels. A low-level, significant, and positive relationship does exist between adolescents' average duration of daily online gaming and general procrastination levels ($r = .11$; $p < .01$). At the same time, a low-level, significant, and positive relationship exists between adolescents' problematic Internet usage and general procrastination levels ($r = .16$; $p < .001$). A low-level, significant, and positive relationship is also found between adolescents' average duration of daily online gaming and academic procrastination level ($r = .10$; $p < .01$). Likewise a low-level, positive, and significant relationship between adolescents' problematic Internet

usage and academic procrastination levels exists ($r = .27$; $p < .001$). A low-level, positively significant relationship is observed between adolescents' average duration of daily Internet usage and academic procrastination levels ($r = .11$; $p < .001$). A medium-level, significant, and positive relationship is found between adolescents' general procrastination levels and academic procrastination levels ($r = .39$, $p < .001$).

Finding a significant relationship between general procrastination and academic procrastination levels can be called remarkable because it provides information about adolescents' procrastination behaviors. Moreover, finding low-level, significant, and positive relationships among the average duration of daily Internet usage, average duration of daily online gaming, and problematic Internet usage levels attracts attention. Additionally, finding low-level significant relationships among adolescents' problematic Internet usage, general procrastination levels, and academic procrastination levels can also be called an important finding.

## Adolescents' Opinions about the Internet and Their Perceptions of the Internet's Effect on Themselves

**Adolescents' general opinions about the Internet.** In the research, adolescents were asked the open-ended question, "What do you think about the Internet?" to find out their general opinions about the Internet. Next, the themes were obtained using content analysis; the findings related to these themes are presented in Table 1.

Table 1
*Findings related to the adolescents' general opinions about Internet*

| Adolescents' general opinions about the Internet | n | % |
|---|---|---|
| A tool for obtaining information | 231 | 21.23 |
| Beneficial | 188 | 17.28 |
| Both beneficial and harmful | 187 | 17.19 |
| Tool for fun | 147 | 13.51 |
| Good if used to serve a purpose | 140 | 12.87 |
| A tool for communicating | 129 | 11.86 |
| Harmful | 55 | 5.06 |
| Makes life easier | 43 | 3.95 |
| Necessary | 26 | 2.39 |
| An indispensable tool | 23 | 2.11 |
| A need | 22 | 2.02 |
| Leads to procrastinating responsibilities | 22 | 2.02 |
| Unnecessary | 14 | 1.29 |
| Overuse is harmful/Limited use is beneficial | 12 | 1.10 |
| A tool for making dreams come true | 2 | 0.18 |

As can be seen in Table 1, 231 adolescents (21.23%) state the Internet is a tool for obtaining information, 188 (17.28%) state it is beneficial, whereas 187 (17.19%) express that it is both beneficial and harmful. Only two adolescents (0.18%) describe it as a tool for making dreams come true.

**Adolescents' opinions about the Internet's positive effects on themselves.** In the research, adolescents were asked the open-ended question, "How does the Internet positively affect you?" in order to find out its positive effects on them. Next, themes were obtained through content analysis, and findings related to these themes are presented in Table 2.

Table 2
*Findings Related To the Adolescents' Opinions about Internet's Positive Effect on Themselves*

| Adolescents' opinions about Internet's positive effect | n | % |
|---|---|---|
| It lets me obtain information | 866 | 79.59 |
| It lets me communicate | 253 | 23.26 |
| It lets me have fun | 234 | 21.51 |
| It lets me develop myself | 13 | 1.19 |
| It lets me develop my foreign language | 9 | 0.83 |
| It lets me make various payments and shop online | 6 | 0.55 |
| It lets me feel free | 3 | 0.28 |

As can be seen in Table 2, 866 (79.59%) adolescents stated the Internet provides them with information, 253 (23.26%) express Internet lets them to communicate, and 234 (21.51%) mentioned the Internet lets them have fun. Only three adolescents (0.28%) reported that the Internet makes them feel free. That the theme "The Internet is a tool for obtaining information" ranks first among adolescents' general opinions about the Internet and that the theme "The Internet lets me obtain information" ranks first among adolescents' opinions about the Internet's positive contributions are considered to be important findings because they show the Internet's positive contributions to adolescents.

**Adolescents' opinions about the Internet's negative effects on themselves.** In the research, adolescents were asked the open-ended question, "How does the Internet negatively affect you?" to determine its negative effects, then the themes were obtained through content analysis. The findings related to these themes are presented in Table 3.

Table 3
*Findings Related To the Adolescents' Opinions about Internet's Negative Effect on Themselves*

| Internet's negative effect on adolescents | n | % |
|---|---|---|
| Causes me to waste time | 574 | 52.78 |
| Causes me health problems | 135 | 12.41 |
| Causes addiction | 109 | 10.02 |
| Negatively affects my school success | 62 | 5.70 |
| Distances me from social life | 51 | 4.69 |
| Causes me to procrastinate my work | 34 | 3.13 |
| Exposes me to improper visual content | 33 | 3.03 |
| Isn't safe in terms of confidentiality of personal information | 23 | 2.11 |
| Disrupts family relations | 16 | 1.47 |
| Negatively affects my thoughts | 11 | 1.01 |
| Causes me financial harm | 4 | 0.37 |

As can be seen in Table 3, 574 adolescents (52.78%) express that the Internet causes them to waste time. This number is remarkable in that more than half the study group ranked it first. The theme "Internet causes health problems" was stated by 135 adolescents (12.41%) and is ranked second among the Internet's negative effects. The theme "The Internet causes addiction" was stated by 109 adolescents (10.02%) and ranks third. That adolescents who stated the Internet caused them to waste time comprises half the study group is an important result because it shows that adolescents have problems with time management.

### Discussion and Conclusion

According to the research findings, the adolescents' average duration of daily Internet usage is 3.42 hours. At the same time, the number of the adolescents in the first group including 25% of the study group is 463 and these adolescents use Internet for two hours or less on average per day whereas the number of the adolescents in the last group including 25% of the study group is 210 and they use Internet for more than five hours. In the literature, the studies made by Çınar (2015), Bayhan (2011), Dikme (2014), Özolgun Kurt (2014), and Nalva and Anand (2003) on determining the duration of Internet usage revealed almost 1-2 hours of daily average Internet usage by 27%, 62%, 44%, 62%, and 29% of their study groups, respectively. Taking into account that 25% of the adolescents in this study used Internet for almost two hours or less on average per day, it is seen that the result of this study is close to the results of the previous researches. Moreover, the previous research results that 25% (Dikme, 2014) and 17% (Çınar, 2015) of the study groups use the Internet for five hours or more on average per day support the current result that 25% of this study group used Internet for more than five hours.

This research found a medium-level, positively significant relationship for adolescents' average duration of daily Internet usage with problematic Internet usage. This result is consistent with the results of other studies that have revealed problematic Internet usage increasing as the duration of Internet usage increases (Anderson, 2010; Bayhan, 2011; Çınar, 2015; Gökçearslan & Günbatar, 2012; Nalwa & Anand, 2003; Özolgun Kurt, 2014; Tanrıverdi, 2012; Waldo, 2014; Yılmaz et al., 2014). Thus, based on this research result, one can say that for adolescents to use the Internet healthily, having them control their duration, and be conscious users would be beneficial for them.

Adolescents' most commonly used tool to connect to the Internet is ranked first as cellphones (77.02%), second as desktop computers (12.23%), and third as portable computer (9.64%). These findings are consistent with the findings of studies that reveal the number of those connecting to Internet through mobile phone to be high

(Cengizhan, 2013; Doruk, 2007; Sarıkaya & Seferoğlu, 2013). Another research result here is the type of Internet connection tool most commonly used is an important factor in problematic Internet usage levels, which change depending on the tool used. Adolescents' problematic Internet usage scores who access the Internet on cellphones are significantly higher than the scores of those who access the Internet on portable computers. In the literature, some researches also revealed that 38.5% of students who use the Internet on cellphones don't have problematic Internet usage, while 76.5% of these students do have problematic Internet usage (Ögel, 2012; Özolgun Kurt, 2014). Two other studies indicate that the mean score of Internet-addicted high school students who connect to the Internet at home is significantly higher than that of students who connect to the Internet at Internet cafes (Çınar, 2015; İnan, 2010). Another research made by Doğan (2013) on adolescents reveals that Internet addiction levels do not significantly differ statistically based on where one connects to the Internet (Internet cafes, home, school, other). The data acquired in the current research shows the results do not support each other. Thus, as pointed out in this and previous research, one can say the place one connects to the Internet is not a determining factor in problematic Internet usage. However, problematic Internet usage may be higher in adolescents who have unlimited or wireless Internet access.

This research found that adolescents' reasons for connecting to the Internet are ranked first as to "have fun/pass time" (66.08%), second as to "communicate" (19.59%), and third as to "obtain information" (16.18%). According to the results of this and other research in the literature, the primary three reasons for connecting to the Internet are having fun/passing time, chatting, and education (Anderson, 2010; Balcı & Ayhan, 2007; Bayhan, 2011; Chen & Fu, 2009; Derin, 2013; Doruk, 2007; Gökçearslan & Günbatar, 2012; Günüç & Doğan 2013; İnan, 2010; Karaca, 2007; Morahan-Martin & Schumacher, 2000; Niemz, Griffiths, & Banyard, 2005; Toraman, 2013; Turnalar Kurtaran, 2008; Yılmaz, 2013; Yılmaz et al., 2014). In this research, adolescents' mean score for problematic Internet usage with regard to their reason for using it are as follows: the mean problematic Internet usage score for those who use the Internet to have fun/pass time is the highest (M = 68.90); the mean score for adolescents who use the Internet to communicate rank second (M = 68.39), and the mean score for adolescents who use the Internet to obtain information rank third (M = 53.89). The research shows that adolescents' problematic Internet usage who use the Internet for purposes other than obtaining information is high, and this result parallels the results of certain studies in the literature (Balkaya Çetin, 2014; Sinkkonen, Puhakka, & Merilainen, 2014; Yang & Tung, 2004). The research made by Tahiroğlu et al. (2010), Tsai and Lin (2003), and Yılmaz (2013) also obtained similar results and determined that those using the Internet for purposes such as socializing, playing games, chatting, or communicating had higher mean scores for Internet addiction.

In the research, adolescents' problematic Internet usage levels who play online games is higher than for those who do not play online games. Some researches in the literature also got the result that the adolescents playing online games had higher problematic Internet usage levels and this result supports the current research's result mentioned above (Doğan, 2013; İnan, 2010; Tahiroğlu et al., 2010; Tanrıverdi, 2012; Taylan & Işık, 2015; Tsai & Lin, 2003; Yılmaz, 2013; Yılmaz et al., 2014). These findings indicate that online games are a significant factor among Internet applications in adolescents' unhealthy Internet usage. Hence, the types of online games today vary more and more, and online gaming duration is increasing. In this framework, computer and online game addiction in youth emerges as an important problem, and that Internet addiction scales for adolescents have been developed and scale adaptation studies made to investigate this problem (Ilgaz, 2015) is remarkable. Moreover, according to the research findings, adolescents mostly prefer single-player online games (56.5%). The online games played with more than two player online games (35.63%) followed the online games played with one player online games. The least preferred games are two player online games (7.88%). In Doruk's (2007) study, which was made based on the number of player online games, 60% of the sample played single-player games while 40% preferred playing games with a group. Kıran (2013) found that 11.9% of those playing games every day preferred single-player games whereas 41.9% occasionally preferred single-player games. In the part of this research regarding online game themes, adolescents mostly play strategy games (41.44%) and intelligence game (22.04%). Racing games follow these two types of online games (14.11%). In Doruk's (2007) study, 33% of adolescents preferred strategy games, 27% preferred war games, and 23% preferred other types of games. In Kıran's (2013) research, high-school students mostly played strategy games (42.2%) then sports and racing games (22.4%). One can say that strategy games ranking first in this research and in Doruk's (2007) and Kıran's (2013) research is important in terms of showing that adolescents prefer games where they can implement more thought.

The relationships among adolescents' average duration of daily Internet usage, average duration of daily online gaming, problematic Internet usage levels, general procrastination levels, and academic procrastination levels were also examined in the research. A low-level, positively significant relationship was found between adolescents' average duration of daily online gaming and general procrastination levels ($r = .11$, $p < .01$) and between adolescents' problematic Internet usage and general procrastination levels ($r = .16$, $p < .001$). In addition, a low-level, significant and positive relationship was observed between adolescents' average duration of daily online gaming and academic procrastination levels ($r = .10$, $p < .01$) and between adolescents' problematic Internet usage and academic procrastination levels ($r = .27$, $p < .001$). At the same time, a low-level, positively significant relationship was found between adolescents' average duration of daily Internet usage and academic

procrastination levels ($r = .11$, $p < .001$). The research made by Doğan (2013) and Tsai and Lin (2003) on high-school students revealed that adolescents' problematic Internet usage hindered their daily routines, and these adolescents had higher Internet addiction levels. The current research also found a significant relationship between procrastination and problematic Internet usage. Therefore, Doğan's (2013) research supports the findings here. Nalwa and Anand (2003) achieved the result that Internet addicts procrastinate their daily routines. Additionally, other researches (Esen, 2010; İnan, 2010; Stavropoulos et al., 2013; Taçyıldız, 2010; Toraman, 2013) found an inverse correlation between problematic Internet usage and academic success. This inverse correlation may have a role in individuals spending more time on the Internet than on lessons.

In the research, 231 adolescents (21.23%) stated that the Internet is a tool for obtaining information; 188 (17.28%) stated that the Internet is beneficial, and 187 (17.19%) stated that the Internet is both beneficial and harmful. In Doruk's (2007) research, 45% of the research group said that the Internet helps them in their lessons. In Jones' (2002) research, 79% of students mentioned the Internet contributes to their academic skills. In the literature, there are studies revealing that Internet increases academic success besides the studies revealing that academic success decreases as problematic Internet usage increases (Altuğ et al., 2011; Bayhan, 2011; Esen, 2010; Gamez-Guadix et al., 2014; Gross, 2004; İnan 2010; Nalwa & Anand, 2003; Stavropoulos et al., 2013; Taçyıldız, 2010; Toraman, 2013). Thus, using the Internet to obtain information or for class can be said to have positive effects on students' academic success, whereas using the Internet for other purposes may result in problematic Internet usage and negatively affect adolescents' education.

In the research, 574 adolescents (52.78%) said the Internet causes them to lose time. This number is remarkably more than half of the study group and ranks first. Regarding the negative effects of the Internet, 135 adolescents (12.41%) mentioning the Internet causes health problems ranks second, and 109 adolescents (10.02%) stating the Internet causes addiction ranks third. Tahiroğlu et al. (2010) showed that using computers for an extended time causes individuals to have many physical problems. Sinkkonen et al. (2014) found that negative effects of the Internet (physical disorders, low school success, social isolation, etc.) were higher for students who use the Internet for long durations (Sinkkonen et al., 2014; Yang & Tung, 2004). Also, studies exist that show the Internet has negative effects on academic environment (Balkaya Çetin, 2014; Derin, 2013; Esen, 2010; İnan, 2010; Nalwa & Anand, 2003; Stavropoulos et al., 2013; Taçyıldız, 2010; Toraman, 2013; Yang & Tung, 2004). Consequently, studies in the literature reveal the Internet's negative effects resemble those in this research, which is an important result that shows the importance of being a healthy and conscious Internet user.

In conclusion, this research with its aim to investigate adolescents' general Internet usage and problematic Internet usage behaviors reveals that one of every four adolescents use the Internet for more than five hours a day, which is important with respect to average duration of daily Internet usage. Moreover, one of every four adolescents use the Internet for two hours or less daily, and more than 75% of adolescents use the Internet on their cellphones. In this framework, the growing use of smart phones and the removal of the limits of when and where one can connect to the Internet can be stated as having an important role in the majority of adolescents who use the Internet on their cellphones. Furthermore, the research found a medium-level, positively significant relationship between adolescents' average duration of daily Internet usage and problematic Internet usage. In the research, adolescents primarily use the Internet to have fun/pass time, secondly to communicate, and thirdly to obtain information. With regard to the mean score of problematic Internet usage in terms of Internet usage purpose, to have fun/pass time ranks first, to communicate ranks second, and to obtain information ranks third. Accordingly, one's attention is drawn to the problematic Internet usage of those using it to have fun/pass time and to communicate being higher than that of those using it to obtain information.

Taking into account all the findings of the research, some proposals can be made to practitioners and researchers. In this framework, problematic Internet usage among adolescents has been generally found to be at a significant level in the research. Thus, considering these data from problematic Internet usage, adolescents need to be more conscious and aware of healthy Internet usage. Because adolescents are found to have especially high rates of online gaming, focusing on using digital games with educational content for adolescents and sparing more time for social activities in school environment are needed. Moreover, in order to prevent adolescents from being online for too long, their interests and abilities should be discovered and they should be supported in participating in the sports and cultural activities that are in line with these interests and abilities. Practitioners can develop school-based intervention programs for adolescents with problematic Internet usage. In conclusion, the results of this research are remarkable in terms of understanding adolescents' Internet usage patterns and raising awareness about their problematic Internet usage behaviors. However, the research findings should be evaluated within the methodological limitations of the research.

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