Determination of Factors Affecting the Children's Internet Use

Ömer Alkan

Erkan Oktay

Faculty of Economics and Administrative Sciences
Department of Econometrics
Atatürk University, Erzurum
Turkey

Aşır Genç
ScienceFaculty, Department of Statistics
Selçuk University, Konya
Turkey

Abstract

Internet is one of the most common and most important tools of communication. Nowadays, computers and internet have been emerged as an important part of our lives. The internet has become an integral aspect of life for contemporary children. This study utilized the micro data set of 2013 Household Information Technology Usage Research Survey to determine factors affecting children's Internet use. The corresponding data were analyzed using logistic regression model. The dependent variable of this study is a binary variable that involves children's Internet use or not use. The independent variables are socio-economic and demographic variables. In this study, half of the children use the internet. Chi-square analysis results reveal that there is a relationship between children's Internet use and socio-economic and demographic variables. Three of four children who use the internet live in urban areas. Another noteworthy point is that one of two children who use the internet is currently secondary school (including vocational/technical schools) students. According to logistic regression analysis results, most of the independent variable are found as statistically significant. Watching TV almost every day decreases the probability of children's Internet use and other significant variables increase their internet use. Particularly, variables under the frequency of computer use have the most impact on children's Internet use.

Keywords: Internet use, Children, Logistic regression

1. Introduction

Along with the fast developments in the computer and communication technologies, place of the internet in meeting all kinds of daily needs of people such as work, shopping, payment, establishing communication, education and entertainment has been increasing (Muslu and Bolışık 2009).The internet that was invented in America in 1960s has fast expanded to all world within intervening 50 years and had reached to 2,405,518,376 people in all of the world according to June 2012 dated data (Mayda and Yılmaz 2015).Especially the section born after 1976 and referred to as "Y" generation is in the front line in terms of both population and new technology that they use.

This generation and todays' children and the youths; are the primary ones among the actors taking place at the parts that desire interaction and communication of technology in general and computer and internet in private. When viewed from this respect, the children are the primary factors who use the technology and will carry it forward (Canbek and Sağıroğlu 2007). According to academic studies conducted in recent years, 87% of 5-7 year olds are known to use the internet in UK, 21% of the 6-7 years old and 48% of the 8-9 year old use the internet "at least rarely" in Germany, 64% of 7 year olds use the internet in Finland, 70% of Flemish pre-scholars are online, usually from the age of 3 to 4 onwards, and mostly on a regular basis of at least several times a month in Belgium, 70% of 3 to 4 year olds go online at least sometimes in Sweden, 78% of Dutch toddlers and pre-scholars are already online and 5% of babies under 1 are going online in Netherlands.

Almost half of 3-6 year olds use the internet on a regular basis in Austria, 58% of 0-6 year olds go online in Norway, 93% of 3-9 year olds go online for an average of 8-9 hours a week in South Korea, 25% of 3 year olds go online daily, rising to about 50% by age 5 and nearly 70% by age 8 in the US and 79% of children aged between 5-8 years go online at home in Australia (Holloway, Green, and Livingstone 2013).While the developments at the technology and communication make human life easier as a criterion of development and modernization and positively affect the communal development, on the other hand it accompanies some problems and dangers resulted from insensible use of the internet (Çam and Nur 2015). While internet is taken into hand as a miracle supporting that children and youths access the information, make research, and supporting personal developments such as problem solving, creativity, critical thinking, etc., it is thought that it also negatively affects development of personal skills except for its excessive, uncontrolled, misuse and insensible use (Kelleci et al.2009). In Turkey, Internet use has been increasingly become wide and physical and mental health problems as relevant to Internet addiction has been increasing at youths (Kayıran et al.2012). Misuse of internet may affect especially social life of the children in various ways. Important problems occur at social development of the children who use internet very frequently and play computer games. Having low self-esteem, increasing their social concerns and making peevish behaviors are one of these problems seen on children.

While it is provided that children and youths are getting benefit from computer and internet opportunities in the right, effective and efficient way, their safeties are given particular importance (Harman et al. 2005; Holloway, Green, and Livingstone 2013; Livingstone, Görzig and Ólafsson2011). Excessive use of the internet for children and Internet addiction can cause a sedentary lifestyle, increasing the risk of obesity and related diseases, deep vein thrombosis (DVT) and pulmonary embolism (Koyuncu, Unsal and Arslantas 2014).There have been noticeable increases in the Internet participation rate of children and young people in all EU countries and Turkey (Holloway, Green and Livingstone 2013). The object of this study is to determine the factors that are effective on Internet use of the children within 6-15 years old group with chi-square and logistic regression analysis by using the cross-section data in Household Information Technologies Use Research Survey belonging to 2013 that was carried out by Turkey Statistics Institution.The rest of the paper is organized as follows: The next section exhibits literature review. Section 3 introduces the material and method. Section 4 presents application results. And, Section 5 delivers a discussion of the findings.

2. Literature review

There are so many academic studies concerning to Internet use in the literature. Tahiroglu et al. (2008) stated that 53.4% of the students had computer in their houses and 31.5% of these students had Internet connection in their house and 44.6% of them were using internet one or two hours in a week. Arnas (2005) detected that 35.7% of the families had computer in their houses and 21.7% of them had internet in their houses and the most common tools that were available in the rooms of the children were 21.7% library, 35.2% cassette player, 34.7% radio and 33.3% television.Blinka et al. (2014) investigated the differences between non-excessive, moderately excessive, and highly excessive Internet use among adolescents aged 11-16. According to results, the highly excessive users differed from the non-excessive and moderately excessive users in their preference for online games and in having more difficulties with self-control. Kayıran et al. (2012) detected that gender, age and frequency of Internet use were effective factors on Internet addiction. Ak, Koruklu and Yılmaz (2013) stated that gender, having internet in the house and income level of the family were effective on Internet addiction.As well as demographic factors, family attitudes and behaviors affected Internet use of the children (Álvarez et al.2013). The problematic Internet use for the children who use internet has become an important health problem (Serin 2011). The dramatic increase in the use of the internet in recent years has led to pathological use such as Internet addiction (Govindappa, Kasi and Henry 2014). There are also some specific studies concerning to Internet addiction.Cananet al. (2014) investigate Internet use patterns and Internet addiction among adolescents and to examine the correlation between problematic Internet use and body mass index. Matusitz and McCormick (2012) suggested that Internet use may cause sedentarism, which refers to decreased energy expenditure or, simply, physical inactivity. Sedentarism, in turn, may increase obesity.

3. Material and method

3.1. Logistic Regression

Along with that some of the variables reviewed in the social sciences especially in the socio-economic researches were measured with sensitive scale.

Some of these variables were formed from optional data such as positive-negative, successful-unsuccessful, yes-no, etc. The data with two options is the most widely used one of categorical data. In case dependent variables were categorical data with two options (or with variables), logistic regression analysis were used when reason-result relation among the dependent variable was reviewed (Agresti 2002).The logistic model was developed for using in the life analysis first. Here, the dependent variable (Y) receives the value of 1 or 0 according to the status of surviving or not. E(Y) value may not be lower than 0 or upper than 1 in any way. Therefore estimated $\hat{y}$ values in the logistic model takes part between 0 and 1 (Mendenhall and Sincich 1996).

Logistic model is written as follows:

$$E(Y) = \pi = P(Y = 1) = \frac{e^{\beta_0 + \beta_1 X_i}}{1 + e^{\beta_0 + \beta_1 X_i}} \quad (1)$$

If necessary mathematical procedures are carried out, the below mentioned value is obtained:

$$e^{\beta_0 + \beta_1 X_i} = \frac{\pi}{1-\pi} \quad (2)$$

Here $\frac{\pi}{1-\pi}$ is the odds ratio. Odss ratio is the ratio of occurrence probability of the event to not occurrence probability. In the $\frac{\pi}{1-\pi}$expression, $\pi = P(Y = 1)\ and\ 1 - \pi = P(Y = 0)$.

In the logistic model, coefficients do not give the effect of direct independent variable on the probability. Alternation ratio of the probability on the independent variable is not only correlated to coefficient (β), it is also correlated to level of the probability at which alteration is measured. Therefore while other variables are constant in the logistic regression model, marginal effects for each variable it is obtained with the equivalent of (Özer 2004);

$$\frac{d\pi_i}{dx_i} = \pi_i(1 - \pi_i)\beta_1 \quad (3)$$

3.2. Data

The data used in this study was obtained from Household Information Technologies Usage Research Survey that was carried out by TUIK in 2014. Household Information Technologies Usage Research has been regularly carried out at annual period since 2004 (except for 2006) in accordance with EU regulations with the help of model questionnaire developed with the close cooperation of statistic offices of EU member countries of European Union Statistic Office and OECD. Every settlement place in Turkey was included in the scope for sample selection. Sampling method of the research is 2 stage layer cluster sampling method. At the first stage, the clusters (blocks) formed from average 100 households were selected for sample (PPS) as contingent to in proportion to their bigness and at the second stage, sample address were determined by using systematic selection method among selected clusters for the sample. Methodology of the research covers children between the ages of 6 and 15 years old (TUIK).

3.3. Measures and variables

Dependent variable of the study is the internet status that was measured with the question of "Do you use internet?" (yes, no). Dependent variable of the study is a variable that has two categories. Dependent variable categories at established logistic model receive the value of 1 if the child uses internet and 0 if the child does not use internet.Independent variables are as follows Statistical Region Units Classification (SRUC) – Level 1 sub-regions (TR1, TR2, TR3, TR4, TR5, TR6, TR7, TR8, TR9, TRA, TRB, TRC); place of residence (urban, rural); age (6-10, 11-15); gender (female, male); being literate and illiterate (yes, no); education school (primary school, secondary school, occupational-technical secondary school, general high school, occupational-technical high school, not educated); having or not having a computer (N/A, available); having or not having a mobile phone (N/A, available); having or not having a game console (N/A, available); frequency of watching media TV (at least one time in a week, almost everyday); watching news programs (no, yes); watching film, tv series (no, yes); watching cartoon film (no, yes); watching entertainment, music, competition (no, yes); watching sports programs (no, yes); watching educative programs such as documentary, culture, art (no, yes); reading gazette/journal in the released media (no, yes); mobile phone use of the children (no, yes) and frequency of computer use (almost everyday, at least one time in week, at least one time in a month, less than one time in a month).Turkey was divided into 12 regions at Level 1 under the name of Statistical Region Units Classification (SRUC). These regions and provinces taking place in these regions are shown at Table 1 in detail.

4. Statistical analysis

4.1. Descriptive statistics

Number and percentage of the independent variables used in the study according to Internet use and chi-square test results are shown in Table 2. 50% of the children who participated to the study were using internet. The highest participation to the study was from TRC (15.8%), TR6 (11.4%) and TR1 (11%) regions, respectively.
While 23.2% of the students using internet were at TRC region, 14.8% of the students using internet were from TR1 region. 68.9% of the children were residing in the urban. 81% of the children using internet were residing in the urban. 52.5% of the children were at 11-15 years old. While 61.6% of the children not using internet were 6-10 years old, 66.6% of the children using internet were 11-15 years old. 52.3% of the children were male. While 55.3 of the children using internet were male, 50.7% of the children not using internet were female. Majority of the children were literate. Ratio of the illiterate ones was 6.5%. 2.2% of the children using internet were illiterate. 50.6% of the children were primary school student and 1.3% of the children were not going to school. While 46.5% of the children using internet were secondary school student, 60.8% of the children not using internet were primary school student. 60% of the children participated to the study had computer belonging to himself/herself, 86.5% of the children had mobile phone and 97.3% of the children had no game console. 91.2% of the children not using internet had no computer belonging to himself/herself, 97.4% of them had no mobile phone and 99.4% of them had no game console. 92.6% of the children were watching TV almost everyday.

While 91.1% of the children using internet were watching TV almost everyday, 94% of the children not using internet were watching television. Ratio of the children watching news program were 10.6%, ratio of the ones watching television series were 62.2%, ratio of the ones watching cartoon films were 70.6%, ratio of the ones watching entertainment, music, competition programs were 49.4%, ratio of the ones watching sports programs were 23.6% and ratio of the ones watching educative programs such as documentary, culture and arts were 19.7%. 14.6% of the children using internet were watching news program, 68.9% of them film/television series, 60.4% of them cartoon film, 60.5% of them entertainment, music, competition programs, 33.2% sports programs and 27.3% educative programs such as documentary, culture, arts. 6.65% of the children not using internet was watching news programs, 55.4% of them film, television series, 80.9% of them cartoon film, 38.2% of them entertainment, music, competition programs, 14% of them sports programs and 12.1% of them educative programs such as documentary, culture-art programs. 81.3% of the children was reading journal or gazette in the released media. Ratio of the children using mobile phone was 75%. 40.4% of the children using internet were using mobile phone. While 40% of the children were not using computer, 26.8% of the children were using computer almost everyday. 47.3% of the ones using internet were using internet almost everyday and 43.5% of them were using internet at least one time in a week.

4.2. Estimated model

Logistic regression model was used in order to determine the factors that were effective on Internet use of the children. Ordinal and nominal variables were defined as dummy variables with the aim of observing effects of the categories belonging to all variables to be taken to logistic regression model. It was tested that whether there was multiple linear correlation between independent variables to be taken to logistic regression model. It is thought that the ones having 5 and upper variance inflation factor (VIF) leads to medium degree multiple linear correlation and the ones having 10 and upper variance inflation factor (VIF) leads to high degree multiple linear correlation (Bagheri, Habshah and Imon 2012). As seen at Table 3, any of the independent variables taken to the model has not 5 or more variance inflation factor. Accordingly, there is not any variable that leads to multiple linear correlation problem among the variables at the model.After the variables to be taken to the model are determined, logistic regression model to be established will be written as follows

$$E(Y) = \pi = 1/[1 + \exp(-(Intercept + \beta_1 D_{TR1,i} + \beta_2 D_{TR2,i} + \beta_3 D_{TR3,i} + \beta_4 D_{TR4,i} + \beta_5 D_{TR5,i} + \beta_6 D_{TR6,i} + \beta_7 D_{TR7,i} + \beta_8 D_{TR8,i} + \beta_9 D_{TR9,i} + \beta_{10} D_{TRA,i} + \beta_{11} D_{TRB,i} + \beta_{12} D_{placeofresidence,i} + \beta_{13} D_{age,i} + \beta_{14} D_{gender,i} + \beta_{15} D_{literate-illeterate,i} + \beta_{16} D_{noteducated,i} + \beta_{17} D_{generalsecondaryschool,i} + \beta_{18} D_{occupational-technicalsecondaryschool,i} + \beta_{19} D_{generalhighschool,i} + \beta_{20} D_{occupational-technicalhighschool,i} + \beta_{21} D_{computer,i} + \beta_{22} D_{mobilephone,i} + \beta_{23} D_{gameconsole,i} + \beta_{24} D_{watchingmediaTV,i} + \beta_{25} D_{news,i} + \beta_{26} D_{film,i} + \beta_{27} D_{cartoonfilm,i} + \beta_{28} D_{entertainment,i} + \beta_{29} D_{sport,i} + \beta_{30} D_{documentary,i} + \beta_{31} D_{readinggazette-journal,i} + \beta_{32} D_{mobilephoneuse,i} + \beta_{33} D_{almosteveryday,i} + \beta_{34} D_{inaweek,i} + \beta_{35} D_{inamonth,i} + \beta_{36} D_{afewmonths,i})]]$$

$i = 1,2,3, \ldots, 7779$

Estimated logistic regression model results and marginal effects are given at Table 3. Established model was founded statistically significant (P<0.000). Measures of goodness of fit the estimated modelwas calculated as pseudo R^2 = 0.5715 and McFadden's R^2 = 0.572. True classification success of the model was calculation as 87.62%.

According to logistic regression model analysis, Internet use odds ratio of the children at sub-region variable of TR1 (OR = 2.18; 95% C.I. = 1.61–2.96), TR2 (OR = 3.54; 95% CI = 2.21–5.70), TR3 (OR = 2.55; 95% CI = 1.85–3.50), TR4 (OR = 3.40; 95% CI = 2.39–4.84), TR5 (OR = 2.03; 95% CI = 1.47–2.81), TR6 (OR = 1.80; 95% CI = 1.35–2.42), TR7 (OR = 1.80; 95% CI = 1.28–2.52), TR9 (OR = 2.48; 95% CI = 1.62–3.80) was higher compared to TRC sub-region reference category.In the same way, Internet use odds ratio of the children who were residing in the urban (OR = 1.40; 95% CI = 1.16–1.68), were at the ages of 11-15 years old (OR = 1.29; 95% CI = 1.02–1.63), were male (OR = 1.23; 95% CI = 1.04–1.45), were literate (OR = 1.85; 95% CI = 1.19–2.86), had his/her own mobile phone (OR = 1.71; 95% CI = 1.22–2.41), were watching television series, film (OR = 1.18; 95% CI = 1.00–1.40), were watching programs such as entertainment, music, competition (OR = 1.26; 95% CI = 1.22–2.41), were watching sports programs (OR = 1.27; 95% CI = 1.04–1.57), were reading gazette and journal in the released media (OR = 1.66; 95% CI = 1.34–2.04) and were using mobile phone (OR = 1.53; 95% CI = 1.23–1.91) compared to reference categories.

When education status is reviewed, it is seen that general secondary school and general high school variables are significant. Internet use odds ratio of the students who were going to general secondary (OR = 1.55; 95% CI = 1.22–1.97) and general high school (OR = 2.63; 95% CI = 1.65–4.20) was higher compared to the students who were going to primary school.The frequency of computer use was one of the factors that affected Internet use of the children. Internet use odds ratio of the children who were using computer almost everyday (OR = 114.12; 95% CI = 87.48–148.86), were using computer at least one time in a week (OR = 64.57; 95% CI = 50.80–82.09), were using computer at least one time in a month (OR = 45.45; 95% CI = 32.46–63.62) and were using computer less than one time in a month (OR = 25.83; 95% CI = 15.46–43.16) compared to the students who were not using children.

4.3. The findings concerning to the children who use internet

The findings concerning to that how often the children using internet connect internet are given Table 4. While 44.1% of the children using internet connects internet almost everyday, it was detected that 8.7% of them connects internet at least one time and less than one time in a month.One of every two children using internet connects internet everyday. Numerous surveys have attempted to measure how frequently children use the internet at home. Estimates vary from as high as several hours a day to as low as 3 hours a week, depending on how Internet use is measured (e.g., self-report, automatically recorded), age of children sampled, and the year data were collected. Despite high variability in empirical estimates, public perception is that children spend a great deal of time online (Jackson, von Eye, and Biocca2003). In a research carried out on 9-19 years old age group children in UK in 2004, it was determined that 84% of the children used internet at least one time in a week (Livingstone 2010). Kim and So (2012) showed that in the study participants, recording ≥average school performance was positively associated with daily Internet use of ≤3 hours and negatively associated with daily Internet use of over 4 hours. The findings concerning to where the children connect to internet are given at Table 5. It was shown in Table 5 that 64.2% of the children using internet were connecting to internet in the their houses, 7.1% of them workplaces of their parents, 29.5% of them places such as school, course, etc., 29.6% of them internet café, 3.2% of them houses of others and 29.7% of them places at which internet connection was available such as shopping centers, cafe, restaurant, etc.

Some researches indicated that using a computer at home was clearly advantageous to achievement levels in reading and mathematics (Holloway, Green and Livingstone 2013). According to the results of another study carried out in the recent years, it positively affects academic success of the student if he/she has internet connection in the computer belonging to himself/herself in his/her house, school or room (Erdogdu, F. and Erdogdu, E. 2015).The findings concerning to for which activities the children using internet use internet are given at Table 6.The findings concerning to for which activities the children using internet use internet are given at Table 6.

Longitudinal studies show a positive correlation between Internet use during early childhood and achievement at school (Holloway, Green and Livingstone 2013).53.7% of the children used internet for participating to social media such as facebook, twitter, blog, etc., 7.3% of them for audio or video talk through viber, skype, etc. 18.1% of them for sending message through e-mail or Msn and WhatsApp, etc., 78.2% of them for playing game, 49.3% of them for watching film, television series, tv broadcasts, video or listening music, 13.9% of them for reading news, gazette or journal, 55.4% of them searching information by using google, wikipedi, ekşi sözlük, etc. In a study carried out in Western Canada, 81.1% of the children at the age of 5-17 years old using internet in the house were playing game, 19% of them were using e-mail and 40.5% of them were visiting web sites (Johnson 2010).

In a study that was carried out on 12-18 years old group in Turkey, it was detected that 43.3% of the children were using internet for participating to social networks (Gunuc and Dogan 2013). According to research carried out in UK, 90% of the students were using internet for making homework, 72% of them for receiving and sending e-mail, 70% of them for playing game, 46% of them for downloading music and 94% of them for searching information (Livingstone 2010).The findings concerning to that which activities do the children spare less time as they connect to internet are given at Table 7. It is seen at Table 8 that 31.3% of the children connecting to internet were studying less lesson, 26.8% of them were spending less time with their families, 30.8% of them were reading less book, 10.9% of them were sleeping less, 20.1% of them were spending less time with their friends and playing game less, 10.4% of them were doing sports less, 19.9% of them were watching TV less and 11.1% of them were less participating social activities such as cinema, theater and trips. In a study carried out on 12-18 age group, it was detected that internet addiction of the youths who were spending much more time with their mothers was at lower level (Gunuc and Dogan 2013). According to some study, total time using the internet was related to perceived declines in family time but not related to family communication (Lee and Chae 2007).Mesch (2003) explore the relationship between Internet connection and frequency of adolescents' daily use and family time and the perceived quality of relations between adolescents and their parents.

5. Discussion

Today computer and internet has become an important part of our daily life. This is an indispensable situation for children also. Internet is also widely used by the children. In this study, socio-economic and demographic factors that are effective on Internet use of the children and demographic factors and effects of these factors were tried to be determined with logistic regression model. It was detected that half of the children who participated to the student were using internet. According to Chi-square analysis results, there was a strong correlation between Internet use situation of the children with socio-economic and demographic variables taking place in the study. According to chi-square test results, it may be said that socio-economic and demographic factors in the study are effective on Internet use. According to descriptive statistic results, the highest participation was from TRC (Gaziantep, Adıyaman, Kilis, Sanlıurfa, Diyarbakır, Mardin, Batman, Sırnak, Siirt) region and ratio of the children who use internet was much more at TR1 (Istanbul) region compared to other regions. Four of five children who were using internet were residing in the urban. More than half of the children who were using internet were at older age group. Ratio of males and females who participated to the research were closed to each other. But ratio of the males was much more among the children who were using internet. Half of the students who participated to the study was primary school student and almost half of the students who were using internet were secondary school student. Nine of ten students who participated to the study were watching television everyday.

According to a research conducted in recent years, more time spent television viewing is associated with low attachment to parents (Richards et al.2010). Gender is an effective variable on Internet use of the children. Estimated Internet use probability of the male children was much more than the female children. In a survey study that was carried out in England on 1340 secondary school students in 11-16 age group, gender differences on internet use of the children was reviewed. It was detected that male children were much more effective than female children on Internet use (Madell and Muncer 2004). In another study, it was detected that Internet addiction level of male students was much more than female students (Türel and Toraman 2015). But in study that was carried out in the previous years, it was detected that there was no significant difference between females and males in terms of Internet use (Becker 2000). Monthly income of the family was one of the important factors that affect Internet use of the children. There were significant differences between low income households and high income households (Becker 2000). In this study, Internet use probability of the children who were residing in economically much more developed regions was much more.

In the same way, it was detected that Internet use probability of a child who was residing in the urban was much more than a child who was residing in rural. We may say that computer use frequency is one of the most important factors that affects Internet use of the children. Estimated Internet use probability of the children who were using computer everyday was 42.5% more than the children who were not using. In the same way, estimated Internet use probability of the children who were using computer at least one time in a week was 37.4% more than the children who were not using. According to a study results, more research is needed to examine the generalizability of these findings, to identify mediating mechanisms by which Internet use influences academic outcomes, and to develop and evaluate interventions designed to maximize the benefits of Internet use for children (Jackson et al.2003).

This study has some limitations. One of these limitations were that some variables such as monthly income of the family who did not take part in the survey, education level and occupation of the parents and individual number in the family, etc. were not included in the model. Other limitation was that Household Technologies Use Research Survey has been carried out every year regularly since 2004 (except for 2006) but 6-15 age group was included only in 2013.

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Table 1: Statistical Region Units Classification -Level 1

Code	Level 1	Provinces
TR1	İstanbul	İstanbul
TR2	West Marmara	Tekirdağ, Edirne, Kırklareli, Balıkesir, Çanakkale
TR3	Aegean	İzmir, Aydın, Denizli, Muğla, Manisa, Afyonkarahisar, Kütahya, Uşak
TR4	East Marmara	Bursa, Eskişehir, Bilecik, Kocaeli, Sakarya, Düzce, Bolu, Yalova
TR5	Western Anatolia	Ankara, Konya, Karaman
TR6	Mediterranean	Antalya, Isparta, Burdur, Adana, Mersin, Hatay, Kahramanmaraş, Osmaniye
TR7	Central Anatolia	Kırıkkale, Aksaray, Niğde, Nevşehir, Kırşehir, Kayseri, Sivas, Yozgat
TR8	West Blacksea	Zonguldak, Karabük, Bartın, Kastamonu, Çankırı, Sinop, Samsun, Tokat,

		Çorum, Amasya
TR9	East Blacksea	Trabzon, Ordu, Giresun, Rize, Artvin, Gümüşhane
TRA	NortheasternAnatolia	Erzurum, Erzincan, Bayburt, Ağrı, Kars, Iğdır, Ardahan
TRB	East Anatolia	Malatya, Elazığ, Bingöl, Tunceli, Van, Muş, Bitlis, Hakkâri
TRC	Southeastern Anatolia	Gaziantep, Adıyaman, Kilis, Şanlıurfa, Diyarbakır, Mardin, Batman, Şırnak, Siirt

Source: TUIK

Table 2. Distribution of the variables according to Internet use status

Variables	Internet nonuser (n = 3877)		Internet user (n = 3902)		Total (n = 7779)		Chi-square test
	f	%	f	%	f	%	
Regions							0.000*
TR1	278	7.2	579	14.8	857	11.0	
TR2	62	1.6	232	5.9	294	3.8	
TR3	230	5.9	445	11.4	675	8.7	
TR4	176	4.5	424	10.9	600	7.7	
TR5	252	6.5	425	10.9	677	8.7	
TR6	425	11.0	459	11.8	884	11.4	
TR7	201	5.2	290	7.4	491	6.3	
TR8	221	5.7	210	5.4	431	5.5	
TR9	118	3.0	160	4.1	278	3.6	
TRA	446	11.5	165	4.2	611	7.9	
TRB	568	14.7	187	4.8	755	9.7	
TRC	900	23.2	326	8.4	1226	15.8	
Place of residence							0.000*
Rural	1677	43.3	743	19.0	2420	31.1	
Urban	2200	56.7	3159	81.0	5359	68.9	
Age							0.000*
6-10	2388	61.6	1305	33.4	3693	47.5	
11-15	1489	38.4	2597	66.6	4086	52.5	
Gender							0.000*
Female	1964	50.7	1743	44.7	3707	47.7	
Male	1913	49.3	2159	55.3	4072	52.3	
Status of being literate/illiterate							0.000*
No	419	10.8	84	2.2	503	6.5	
Yes	3458	89.2	3818	97.8	7276	93.5	
The school he/she goes							0.000*
Primary school	2356	60.8	1579	40.5	3935	50.6	
General secondary school	491	12.7	103	2.6	594	7.6	
Occupational – Technical secondary school	896	23.1	1713	43.9	2609	33.5	
General high school	36	0.9	95	2.4	131	1.7	
Occupational-Technical high school	79	2.0	332	8.5	411	5.3	
Not educated	19	0.5	80	2.1	99	1.3	
Computer belonging to the child							0.000*
N/A	3537	91.2	2373	60.8	5910	76.0	
Available	340	8.8	1529	39.2	1869	24.0	
Mobile phone belonging to the child							0.000*
N/A	3777	97.4	2953	75.7	6730	86.5	
Available	100	2.6	949	24.3	1049	13.5	
Game console belonging to the child							0.000*
N/A	3854	99.4	3715	95.2	7569	97.3	
Available	23	0.6	187	4.8	210	2.7	
Frequency of watching TV, media							0.000*
At least one time in a week	231	6.0	347	8.9	578	7.4	
Almost everyday	3646	94.0	3555	91.1	7201	92.6	
Watching news programs							0.000*
No	3620	93.4	3331	85.4	6951	89.4	
Yes	257	6.6	571	14.6	828	10.6	
Watching film, tv series							0.000*
No	1730	44.6	1214	31.1	2944	37.8	
Yes	2147	55.4	2688	68.9	4835	62.2	
Watching cartoon film							0.000*
No	739	19.1	1545	39.6	2284	29.4	
Yes	3138	80.9	2357	60.4	5495	70.6	
Watching entertainment, music, competition							0.000*
No	2396	61.8	1540	39.5	3936	50.6	
Yes	1481	38.2	2362	60.5	3843	49.4	
Watching sports programs							0.000*
No	3335	86.0	2607	66.8	5942	76.4	
Yes	542	14.0	1295	33.2	1837	23.6	
Educative programs such as documentary, culture, art etc.							0.000*
No	3407	87.9	2836	72.7	6243	80.3	
Yes	470	12.1	1066	27.3	1536	19.7	
Reading gazette/journal in the released media							0.000*

	No	3568	92.0	2760	70.7	6328	81.3	
	Yes	309	8.0	1142	29.3	1451	18.7	
Mobile phone use of the child								0.000*
	No	3511	90.6	2327	59.6	5838	75.0	
	Yes	366	9.4	1575	40.4	1941	25.0	
Frequency of computer use								0.000*
	Almost everyday	244	6.3	1844	47.3	2088	26.8	
	At let one time in a week	491	12.7	1698	43.5	2189	28.1	
	At let one time in a month	94	2.4	210	5.4	304	3.9	
	One time a month	35	0.9	54	1.4	89	1.1	
	Never	3013	77.7	96	2.5	3109	40.0	

* p<.0

Table 3: Factors affecting the children's Internet use

Variables	Coefficient	Std. Er.	OR	95% CI		P	ME	Vif
Regions (Reference: TRC)								
TR1	0.78	0.155	2.18	1.61	2.96	0.000*	0.070	1.70
TR2	1.27	0.242	3.54	2.21	5.70	0.000*	0.113	1.29
TR3	0.93	0.162	2.55	1.85	3.50	0.000*	0.084	1.51
TR4	1.22	0.180	3.40	2.39	4.84	0.000*	0.110	1.48
TR5	0.71	0.165	2.03	1.47	2.81	0.000*	0.064	1.53
TR6	0.59	0.149	1.80	1.35	2.42	0.000*	0.053	1.58
TR7	0.59	0.172	1.80	1.28	2.52	0.001*	0.052	1.37
TR8	0.12	0.178	1.13	0.79	1.60	0.505	0.011	1.33
TR9	0.91	0.218	2.48	1.62	3.80	0.000*	0.081	1.23
TRA	-0.14	0.179	0.87	0.61	1.23	0.434	-0.013	1.44
TRB	-0.06	0.169	0.94	0.68	1.31	0.726	-0.005	1.48
Place of residence (Reference: Rural)								
Urban	0.34	0.094	1.40	1.16	1.68	0.000*	0.030	1.28
Age (Reference: 6-10)								
11-15	0.25	0.120	1.29	1.02	1.63	0.034**	0.023	2.65
Gender (Reference: Female)								
Male	0.21	0.086	1.23	1.04	1.45	0.017**	0.018	1.27
Status of being literate/illiterate (Reference: No)								
Yes	0.61	0.224	1.85	1.19	2.86	0.006*	0.055	1.74
The school he/she goes (Reference: Primary school)								
Not educated	-0.16	0.214	0.85	0.56	1.30	0.462	-0.014	1.79
General secondary school	0.44	0.122	1.55	1.22	1.97	0.000*	0.039	2.42
Occupational – Technical secondary school	0.26	0.336	1.30	0.67	2.51	0.438	0.023	1.18
General high school	0.97	0.238	2.63	1.65	4.20	0.000*	0.087	1.52
Occupational-Technical high school	0.37	0.391	1.44	0.67	3.10	0.350	0.033	1.15
Computer belonging to the child (Reference: N/A)								
Available	0.11	0.091	1.12	0.94	1.34	0.212	0.010	1.33
Mobile phone belonging to the child (Reference: N/A)								
Available	0.54	0.174	1.71	1.22	2.41	0.002*	0.048	1.95
Game console belonging to the child (Reference: N/A)								
Available	0.45	0.291	1.58	0.89	2.79	0.118	0.041	1.08
Frequency of watching TV, media (Reference: At least one time in a week)								
Almost everyday	-0.28	0.154	0.76	0.56	1.02	0.071	-0.025	1.05
Watching news programs (Reference: No)								
Yes	0.08	0.139	1.08	0.82	1.42	0.582	0.007	1.18
Watching film, tv series (Reference: No)								
Yes	0.17	0.085	1.18	1.00	1.40	0.047**	0.015	1.22
Watching cartoon film (Reference: No)								
Yes	0.01	0.101	1.01	0.83	1.23	0.905	0.001	1.52
Watching entertainment, music, competition (Reference: No)								
Yes	0.23	0.083	1.26	1.07	1.48	0.005*	0.021	1.26
Watching sports programs (Reference: No)								
Yes	0.24	0.106	1.27	1.04	1.57	0.022**	0.022	1.41
Educative programs such as documentary, culture, art etc. (Reference: No)								
Yes	0.11	0.102	1.11	0.91	1.36	0.292	0.010	1.22
Reading gazette/journal in the released media (Reference: No)								
Yes	0.50	0.107	1.66	1.34	2.04	0.000*	0.045	1.20

Mobile phone use of the child (Reference: No)								
Yes	0.43	0.111	1.53	1.23	1.91	0.000*	0.038	1.89
Frequency of computer use (Reference: Never)								
Almost everyday	4.74	0.136	114.12	87.48	148.86	0.000	0.425	2.01
At let one time in a week	4.17	0.122	64.57	50.80	82.09	0.000	0.374	1.64
At let one time in a month	3.82	0.172	45.45	32.46	63.62	0.000	0.342	1.11
One time a month	3.25	0.262	25.83	15.46	43.16	0.000	0.291	1.04

* p<.01; **p<.05

Table 4: Internet use frequency and time

Variables	Categories	f	Percentage
Frequency of connecting to the internet for the children	Almost everyday	1721	44.1
	At least one time in a week	1839	47.1
	At least one time in a month	267	6.8
	Less than one time in a month	75	1.9

Table 5. Place of connecting to the internet and internet connection devices

Variables	Yes		No	
	f	Percentage	f	Percentage
The place where the children connect to the internet				
House	2506	64.2	1396	35.8
workplace (mother's, father's)	276	7.1	3620	92.9
Education place (school, course, etc.)	1150	29.5	2746	70.5
Internet cafe	882	22.6	3016	77.4
House of others (friend, relative, etc.)	125	3.2	3775	96.8
The place where wifi connection is done (shopping center, café and restaurant, etc..)	1157	29.7	2743	70.3

Table 6. The activities at which internet is used

Variables	Yes		No	
	f	Percentage	f	Percentage
Using internet with the aim of homework or learning	3312	84.9	589	15.1
Participation to social media networks such as Facebook, twitter, blog, etc.	2096	53.7	1805	46.3
Audio or vide talk through viber, skype, etc.	285	7.3	3613	92.7
Sending message through e-mail or Msn, WhatsApp, etc.	704	18.1	3193	81.9
Playing game	3051	78.2	851	21.8
Watching film, tv series, tv broadcasts, video and listening music	1924	49.3	1978	50.7
Reading online news, gazette or journal	542	13.9	3355	86.1
Searching information (by using google, wikipedi, ekşi sözlük etc.)	2160	55.4	1738	44.6
Downloading file (game, film, program, music, etc.)	869	22.3	3028	77.7

Table 7. Negativities of the internet

Variables	Yes		No	
	f	Percentage	f	Percentage
I study lesson less	1221	31.3	2680	68.7
I spend less time with my family	1046	26.8	2856	73.2
I read less book	1200	30.8	2697	69.2
I sleep less	426	10.9	3472	89.1
I get together with friends less and I play less game	784	20.1	3114	79.9
I do sports less	407	10.4	3491	89.6
I watch TV less	777	19.9	3121	80.1
I participate to the social activities less (cinema, theater, trip, etc)	433	11.1	3465	88.9