# The Effect of Sports on Children's Internet Addiction, Optimism and Communication Skills

**Sibel Sarı[1] and Elif Karagün[2]**
[1]*Graduate student., Kocaeli University, Health Science Institute, Turkey*
[2]*Assoc.Prof. Dr., Kocaeli University, Sport Faculty, Department of Recreation, Turkey*

**Abstract**

Sports activities organized by the municipalities are considered important for the efficient evaluation of the leisure time of the children. However, when the literature is examined, the results of these sports activities organized for children; it seems that there is no study evaluating internet addiction, communication skills and sense of optimism. The purpose is to examine the effect of leisure time sports organized by the Municipalities on the internet addiction, optimism and communication skills of children aged 10-12. In line with this purpose, after the ethics committee and Municipalities permissions, 10-12 years old children and their parents were informed about the research. Information survey, internet addiction, optimism and communication skills scales were applied to those who received approval from their families and wanted to participate in the research voluntarily. Then, 12-week sports exercises were carried out. At the end of 12 weeks, the same scales were reapplied. When the data were analyzed, It was determined that 12-week sport was effective in improving internet addiction symptoms and increasing the sense of optimism and communication skills. Symptoms of internet addiction who especially who have not become chronic, sports activities are considered important for the emotional recovery in individuals who have a feeling of pessimism and who have difficulties in communicating. In this regard, it is thought that sporting leisure time activities should be planned and implemented in schools. As a result, in order to reduce internet addiction, improve communication skills and increase the sense of optimism, it was found important to encourage children to sports and increase sports activities.

**Keywords:** İnternet addiction, Optimism, Communication Skill, Sports.

## 2. Introduction

With the development of information technologies and the widespread use of the internet, some changes have occurred in people's daily lives. Print books have been replaced by online libraries and games with friends have been replaced by computer games. In this way, communication through social networks has become widespread and face-to-face communication has decreased [1,2]. In a study, considering the answers to the questions about the things that have changed in children's life with the use of computer and internet, it is seen that many things have changed. It was determined that 10.4% of children do less sports, 30.1% read less, 25.9% spend less time with their family, 33.6% study less, 10.8% sleep less, 19.4% watch less television and 11% participate less in social activities such as cinema, theater, travel, etc [3].

Different solutions are tried to be created for the emotional problems that may negatively affect the communication skills of children and young people as a result of less work, less sleep and constant internet activity due to spending time at the computer at home. In order to find solutions, some efforts have been made recently by local administrations to enable children and young people to spend their free time efficiently and to be more socially active and to prevent negative habits. Sports schools are opened for children and young people by municipalities within the scope of these studies to encourage them to participate in sports regularly. Examining the literature; it is seen that there is no study evaluating the results of the sports activities organized by the municipalities for children in terms of internet addiction, communication skills and sense of optimism. In this respect, it was aimed to test whether the routine sports activities organized by municipalities had a positive effect in terms of children's internet addiction, sense of optimism and communication skills. It was also aimed to evaluate whether these results varied according to socio-demographic variables. Thus, it was investigated whether routine sports programs had an impact on reducing internet addiction, improving the sense of optimism and communication skills.

## 2. Literature Review

Optimism is explained as the tendency of individuals to perceive positive events and hope to face them [4]. It is stated in the literature that features such as optimism or pessimism are effective in people's

response to coping with events. One of the many tools used to deal with events is the internet. It has been suggested that especially children use the Internet to communicate more, have fun and feel good. It was explained that the duration and purpose of using the internet to feel good also caused internet addiction [5].

The concept of internet addiction is defined by Egger and Rauterberg (1996) as being unable to give up a substance or behavior or being uncontrolled [6]. Addiction is not only based on a situation such as smoking, alcohol, drugs but different addiction types such as eating, game, computer, television, shopping, internet have also been defined [7, 8]. Although uncontrolled behaviors and negative results of these uncontrolled behaviors are observed in all addiction groups, their continuous recurrence is considered as a differential diagnosis for addiction [9]. It has been mentioned that as in other addictions, lack of tolerance and withdrawal symptoms are also seen in internet addiction and that interpersonal conflict is experienced with the development of tolerance [10]. Healthy internet use is stated as the use of internet by individuals in a suitable timeframe without feeling any discomfort in line with the desired goal [11]. In the studies conducted, it has been reported that internet and online communication have negative effects on adaptation and psychological well-being and that psychological well-being is negatively affected by the increase in the duration of internet use [12,13,14,15]. According to some research examining the first quarter of 2016, it is seen that a high rate of the individuals in Turkey such as 94.9% use the internet regularly [16]. Also, considering that today children experience situations such as studying less and increasing negative habits due to the increase in their internet use, it is stated that this situation can be considered as a kind of addiction [11].

## 3. Method

### *3.1. Participants*

This is an experimental study based on the pretest-posttest pattern. The population consists of children aged 10-12 newly registered in sports schools in İzmit district of Kocaeli Metropolitan Municipality in Turkey.

### *3.2. Materials*

Information Survey: A 13-question information survey prepared by the researchers in the light of the literature information was conducted in order to determine the socio-demographic characteristics of the children that may affect their internet addiction, optimism and communication skills.

Internet Addiction Scale: A 20-item "Internet Addiction Scale" form which was prepared by Kimberley Young (1998) [17] from the "Psychoactive Substance Addiction" criteria of DSM-IV and was adapted to Turkish by Bayraktar (2001) [18] was used. It is a six-point Likert- type scale. Those who scored 80 and higher were defined as "Pathological Internet Users", those who scored 50-79 as "Showing Limited Symptoms" and those who scored 50 and lower as "Showing No Symptoms".

Optimism Scale: It was developed by Balcı and Yılmaz (2002) [19] to measure the optimism levels of university students. The maximum score that can be obtained from the Likert-type scale consisting of 18 items is 96, and the lowest score is 24. It was later adapted to primary education students by Çalık (2008) [20] as a 5-point likert scale including 18 questions. The highest score that can be obtained from the scale which is adapted to primary school students is 90 and the lowest score is 18.

Communication Skills Scale: It is a five-point likert scale which was developed by Korkut (1996) [21] to understand how individuals evaluate their communication skills and the Cronbach Alpha value of which was found as .80. The scale consists of 25 items in total and the highest score that can be obtained is 125. The high score indicates that individuals evaluate their communication skills positively.

### *3.3. Procedure*

Research Permits and Sample Selection: After obtaining a written permission from Kocaeli Metropolitan Municipality for the research, an approval was obtained from Kocaeli University Human Research Ethics Committee (KU GOKAEK 2018/167). Following the ethics committee approval, it was determined that there are 35 sports schools in Izmit District of Kocaeli Province. Among these sports schools, 25 sports schools with the highest number of 10-12-year-old children were selected as the sample. By visiting these selected 25 sports schools, the parents and their children aged 10 to 12 years were provided with information about the research. After the informing process, the ones who wanted to participate in the

research voluntarily and received approval from their families were included in the scope of the research. After the consent forms were signed, the scale filling process started. After the application of the pretests, forms were evaluated quickly and 300 children in the 10-12 age group who experienced the symptoms of internet addiction at a pathological or limited level and who had recently started the sports school were included in the study. In this experimental study, 300 children attended the sports school for 12 weeks after the pretests. During this 12-week period, only sports activities were implemented without any intervention other than sports programs. The same scales were repeated as a posttest at the end of 12 weeks. Thus, whether there was a change in internet addiction, sense of optimism and communication skills were examined and in accordance with the purpose of the research; the impact of the sports programs carried out under the municipality was tested.

*Data Analysis*

The data obtained in the research are presented as mean, standard deviation and percentage. Parametric tests were preferred for testing hypotheses since the data showed normal distribution when they were analyzed in SPSS 21,00 package program. Independent-Samples T Test was used for the comparison of Independent Samples, Paired-Samples T Test for dependent groups and One Way Anova test for multiple groups. Scheffe, which is accepted as a flexible post hoc test, was used to determine which groups the difference was between, because the variances were homogeneous and the group numbers were not equal. Statistical significance level was accepted as 0.05

## 4. Results

In this section, the results obtained from the internet addiction, optimism and communication skills scales and socio-demographic findings are included.

Table 1 shows the percentage distribution according to the variables of age, grade and gender of the children participating in the sports activity.

***Table 1.*** *Percentage distributions regarding the sociodemographic characteristics of the participants*

| Variables | | Frequency (N) | Percentage (%) |
|---|---|---|---|
| **Age** | 10 years old | 92 | 49.5 |
| | 11 years old | 36 | 19.4 |
| | 12 years old | 58 | 31.2 |
| **Grade level** | 4th grade | 92 | 49.5 |
| | 5th grade | 36 | 19.4 |
| | 6th grade | 58 | 31.2 |
| **Gender** | Female | 108 | 58.1 |
| | Male | 78 | 41.9 |

Table 2 gives the percentage distribution showing the parental education, family income and sibling status of the children participating in the study.

***Table 2.*** *Percentage distribution regarding the family status of participants*

| Variables | | Frequency (N) | Percentage (%) |
|---|---|---|---|
| **Mother** | Illiterate | 18 | 9.7 |
| | Literate | 22 | 11.8 |
| | Primary education | 32 | 17.2 |
| | Secondary education | 85 | 45.7 |
| | University | 29 | 15.6 |
| | Illiterate | 13 | 7.0 |

| | | | |
|---|---|---|---|
| **Father** | Literate | 18 | 9.7 |
| | Primary education | 42 | 22.6 |
| | Secondary education | 80 | 43.0 |
| | University | 33 | 17.7 |
| **Family Income** | 1000 and below | 9 | 4.8 |
| | 1001-1500 | 30 | 16.1 |
| | 1501-2000 | 71 | 38.2 |
| | 2001-2500 | 35 | 18.8 |
| | 2501 and above | 41 | 22.0 |
| **Siblings** | None | 4 | 1.3 |
| | 1 sibling | 56 | 30.1 |
| | 2 siblings | 75 | 40.3 |
| | 3 siblings | 36 | 19.4 |
| | 4 siblings | 6 | 3.2 |
| | 5 siblings and more | 13 | 7.0 |

Table 3 shows the rate of internet addiction symptoms before and after the children participated in sports activities. Before doing sports, 12.0% of the children were in the group of "pathological internet users" and 88% were in the group of "showing limited symptoms". After participating in the 12-week sports program; it was determined that the rate of those with limited symptoms decreased to 30.7%, while the rate of those who did not show any symptoms was 69.3% and there was no one showing pathological internet user symptoms anymore,

***Table 3.*** *Distribution of internet addiction symptoms before and after participating in the 12-week sports program*

| | **Pretests** | | **Posttests** | |
|---|---|---|---|---|
| Applied Scales | **N** | **(%)** | **N** | **%** |
| Pathological Symptoms | 36 | 12.0 | - | **-** |
| Limited symptoms | 264 | 88.0 | 92 | 30.7 |
| No symptoms | - | - | 208 | 69.3 |

As shown in Table 4, the mean score of the internet addiction scale, which was 54.67 ± 20.07, significantly decreased to 36.88 ± 19.15 following the 12-week sports program ($p = .000$; $p < 0.05$). While the optimism scale score was 47.22 ± 14.43, it increased significantly to 59.39 ± 15.34 34 following the 12-week sports program ($p = .000$; $p < 0.05$). Also, the communication skills scale score, which was 64.37 ± 17.61 before the application of the program, increased significantly to 80.62 ± 19.30 in the posttests ($p = .000$; $p < 0.05$).

***Table 4.*** *Pretest-posttest comparison of internet addiction, communication skills and optimism scales (Paired-Samples T Test)*

| **Applied Scales** | Pretest | Posttest | **T** | **P** |
|---|---|---|---|---|
| **Internet addiction** | 68.1 ± 11.19 | 47.43 ± 13.37 | 20.091 | **.000*** |
| **Optimism** | 44.00 ± 11.40 | 57.50 ± 13.64 | -13.205 | **.000*** |
| **Communication skills** | 60.37 ± 15.89 | 75.23± 15.22 | -14.903 | **.000*** |

As seen in Table 5, in the pretests of internet addiction, optimism and communication skills, there is

no statistically significant relationship between the mean scores of internet addiction and communication skills in terms of grade variable. However, the posttests of internet addiction ($p = .020$; $p < 0.05$) and communication skills ($p = .030$; $p < 0.05$) and the pretests of the optimism scale ($p = .021$; $p < 0.05$) are found significant in terms of grade level.

***Table 5.*** *Results of variance analysis of scale means by grade level*

| Scales | Variables | Mean ± Sd | F | P | Scheffe |
|---|---|---|---|---|---|
| **Internet addiction Pretest** | 4th grade[a] | 55.02 ± 20.57 | 2.30 | .102 | |
| | 5th grade[b] | 59.20 ± 19.01 | | | |
| | 6th grade[c] | 51.83 ± 19.55 | | | |
| **Internet Addiction Posttest** | 4th grade[a] | 35.47 ± 20.18 | 3.97 | **.020** | **a-b** **b-c** |
| | 5th grade[b] | 43.78 ± 17.30 | | | |
| | 6th grade[c] | 35.53 ± 17.80 | | | |
| **Optimism Pretest** | 4th grade[a] | 48.38 ± 14.50 | 3.92 | **.021** | **a-b** **b-c** |
| | 5th grade[b] | 42.06 ± 12.05 | | | |
| | 6th grade[c] | 48.05 ± 14.99 | | | |
| **Optimism Posttest** | 4th grade[a] | 60.17 ± 16.63 | 1.54 | .214 | |
| | 5th grade[b] | 55.92 ± 11.64 | | | |
| | 6th grade[c] | 59.94 ± 14.83 | | | |
| **Communication Skills Pretest** | 4th grade[a] | 66.43 ± 17.51 | 2.14 | .119 | |
| | 5th grade[b] | 61.76 ± 18.25 | | | |
| | 6th grade[c] | 62.53 ± 17.24 | | | |
| **Communication Skills Posttest** | 4th grade[a] | 82.72 ± 19.48 | 3.55 | **.030** | **a-b** |
| | 5th grade[b] | 74.40 ± 15.81 | | | |
| | 6th grade[c] | 80.55 ± 20.10 | | | |

In Table 6, no significant difference is found in terms of gender in any of the three scales.

***Table 6.*** *Scale analysis according to gender (t test)*

| Scales | Female mean ± sd | Male mean ± sd | T | P |
|---|---|---|---|---|
| **Internet addiction Pretest** | 54.50 ± 20.73 | 54.90 ± 19.19 | .170 | .865 |
| **Internet Addiction Posttest** | 37.28 ± 20.35 | 36.31 ± 17.39 | -.433 | .665 |
| **Optimism Pretest** | 46.76 ± 14.20 | 47.86 ± 14.78 | .652 | .515 |
| **Optimism Posttest** | 58.97 ± 16.62 | 59.97 ± 13.39 | .555 | .579 |
| **Communication Skills Pretest** | 63.06 ± 16.74 | 66.19 ± 18.68 | 1.517 | .130 |
| **Communication Skills Posttest** | 79.48 ± 19.39 | 82.21 ± 19.14 | 1.211 | .227 |

In Table 7, when the scale results of the children are analyzed according to age variable, the pretest scores of the three scales are found insignificant. In the posttests, while the optimism scale scores and the communication skills scale are insignificant; there is a significant difference in internet addiction scale in

favor of the 11 age group (p = .044; p <0.05).

*Table 7. Results of the variance analysis of the scale means by age*

| Scales | Variables | Mean ± Sd | F | P | Schefe |
|---|---|---|---|---|---|
| **Internet addiction Pretest** | 10[a] years old | 68.75 ± 12.22 | 1.445 | .238 | |
| | 11[b] years old | 69.55 ± 10.87 | | | |
| | 12[c] years old | 66.069 ± 9.56 | | | |
| **Internet Addiction Posttest** | 10[a] years old | 46.69± 13.98 | 3.163 | **.044*** | **a-b** |
| | 11[b] years old | 50.0± 12.16 | | | |
| | 12[c] years old | 46.79± 13.21 | | | |
| **Optimism Pretest** | 10[a] years old | 43.79 ± 12.53 | .938 | .393 | |
| | 11 years old | 43.52± 10.78 | | | |
| | 12 years old | 44.65± 10.09 | | | |
| **Optimism Posttest** | 10 years old | 57.10± 14.95 | .800 | .450 | |
| | 11 years old | 57.82 ± 11.82 | | | |
| | 12 years old | 57.89 ± 12.90 | | | |
| **Communication Skills Pretest** | 10 years old | 62.89 ± 16.24 | 2.074 | .127 | |
| | 11 years old | 57.17± 15.43 | | | |
| | 12 years old | 59.75± 15.39 | | | |
| **Communication Skills Posttest** | 10 years old | 76.28± 15.19 | 2.462 | .087 | |
| | 11 years old | 71.42 ± 14.34 | | | |
| | 12 years old | 76.26± 15.66 | | | |

**5. Discussion and Conclusion**

This study was limited to children in the 10-12 age group who experienced the symptoms of internet addiction at a pathological or limited level and started a sports school for the first time. Also, their lack of any psychological support is another limitation. According to the results of the data, in the pretests of internet addiction, applied before the sports program started, it was found that 12% of the 10-12 age group children were pathological internet users and 88% showed limited symptoms. In the posttests applied following the 12-week sports program, no symptoms related to internet addiction were observed in 69.3% of the children, while 30.7% had limited symptoms. These results showed that the 12-week sport program was effective in eliminating internet addiction symptoms of the children (Table 3). Another finding showing that sports is effective in eliminating internet addiction symptoms can be seen in Table 4. In this table, when the pretests and posttests of the internet addiction scale are compared, the significant drop in the posttest scores of the internet addiction scale shows that 12 weeks participation in sports was effective in eliminating internet addiction symptoms. In the literature, it is stated that sport used in the treatment of internet addiction in addition to the therapy is supportive in the treatment of addiction because it increases self-control and has a psychologically healing effect [22]. In addition, it is reported that it is important to do sports in coping with negative habits and that especially regular exercise should be applied with other treatments as it decreases the time spent on the internet and develops a sense of well-being [17,22,23,24,25,26].

Optimism scores were found at a moderate level in the pretests, whereas they increased significantly after 12 weeks of regular sports participation. In the literature, it is stated that regular exercise provides psychological improvement by increasing the psychological well-being due to the release of serotonin, the hormone of happiness, 20 minutes after starting the exercise [27,28,29,30]. In addition, it is suggested that with the increase of optimism with the effect of sports, individuals solve their problems with others positively and thus their communication skills improve [19,31]. When our findings are interpreted with this

information in the literature, participation in sports is thought to positively contribute to the relations with the environment along with the general sense of optimism. As a matter of fact, when the mean scores of the children are examined; it is observed that communication skills increased significantly in the posttests after regular participation in the 12-week sport program. In the literature, it is stated that individuals who exercise in a planned manner in their free time have a higher level of communication skills than those who do not, they become more ready to establish social relationships and that participating in a sports activity regularly, especially under the supervision of a coach, increases self-control and positively contributes to socialization and identity formation [22,32,33,34,35,36,37]. Considering this information in the literature, it can be said that people who participate in exercise and sports regularly both eliminate their negative feelings by expressing themselves and form a kind of social support network by making friends.

It is stated that spending a long time in the internet environment limits communication, impairs functionality and affects socialization negatively and that internet addiction is associated with loneliness and social support [25,38]. Taking these explanations into account, it is reported that free time sport activities voluntarily participated in without forcing the body is important for the improvement of socialization and supports self-awareness and emotion control and affects the optimism and mental health positively [39,40,41,42,43]. Considering this information, it has been determined that sports preferred by children of 10-12 age group as a free time activity strengthens their communication skills, supports optimism by creating a sense of well-being and ultimately is effective in eliminating the symptoms related to internet addiction. Considering the positive effects of sports in coping with the increasing internet addiction, negative emotions and communication problems as a result of easier access to online platforms such as information, games, sharing and shopping especially with the use of internet, it is deemed important that sports activities are increased by both municipalities and schools and children are encouraged to participate in these activities.

When the internet addiction scores were examined according to grade, there was no significant difference in the pretests, whereas there was a significant decrease in the 4$^{th}$ and 6$^{th}$ grades in the posttests. This finding is consistent with the literature [44]. In our findings, it is observed that internet addiction increases as the grade level increases. Considering the pretests of the optimism scale, in terms of grade level, it was found to be significantly lower in favor of those in Grade 5. However, when measurements were repeated after the 12-week sports program, it was observed that the significant difference between grade levels disappeared in the posttests. When Table 5 is examined, it is seen that although the difference between grade levels is insignificant, the posttest scores increased at all grades level. As the reason for this, it is thought that self-recognition occurs with increasing age as the grade level increases and that positive thinking improves as a result of the secretion of the serotonin hormone with participation in sports and it increases the optimism scores by being reflected in the emotional state of the children positively. When the communication skills scale results were analyzed according to the grade level, no significant difference was found in the pretests in terms of grade level. However, after regular participation in the 12-week sports activity, communication skills were found significant in favor of 4$^{th}$ Graders.

In terms of gender variable, the results of the three scales were found insignificant. Considering the literature, unlike the research findings; it was also seen that there were significant results showing that males used more internet and got higher addiction scores [45,46,47]. While the scores of internet addiction scale did not show a significant difference in the pretests in terms of age groups, it showed a significant decrease in favor of the ages of 10 and 12 in the posttests applied after 12 weeks of participation in sports. It was thought that the data obtained by age and grade level supported each other and that the least change was in the 11 age group. It was also thought that the reasons for the less improvement of internet addiction symptoms compared to other ages should be investigated. Considering the literature studies, there are similar results to our findings and it is stated that internet addiction is becoming more and more widespread as it facilitates things in every field such as accessing information quickly [48,49,50].

The sense of optimism was found insignificant in both pretests and in terms of age variable. It is stated that regular participation in recreational activities affects psychological change as well as biological change and it keeps away from stress most importantly and that 13-year-old students are more optimistic than 11-year-old students [51,52]. Communication skills did not differ significantly in terms of age variable, either. In the literature, it is reported that regular participation in sports activities provides environmental adaptation and communication skills increase with age [53,54]. In this study, it is also thought that communication skills of children increase due to the sense of well-being with the development of positive feelings as a result of

both the secretion of serotonin hormone and exposure of their abilities through participation in sports and that the symptoms of internet addiction improve with the increase of communication skills and the effect of active participation in the social environment.

It was determined that 12-week sport program was effective in improving internet addiction symptoms and increasing the sense of optimism and communication skills. Considering the explanation in the literature that sports has a therapeutic effect regarding the problems that require a little psychological intervention [55]. it is thought that this problem can be overcome by directing children who have symptoms of internet addiction and especially who have not become chronic and that sports activities are considered important for the emotional recovery of individuals who have a feeling of pessimism and who have difficulties in communicating. In this regard, it is thought that sporting leisure time activities should be planned and implemented in schools.

**Conflict of interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding The author(s)** received no financial support for the research, authorship, and/or publication of this article.

**References**

1. Janoschka A. Web advertising. new forms of communication on the internet. Jucker AH, editor. Philadelphia: John Benjamins Publishing Company; 2004. P. 83-122.
2. Young KS. Internet addiction: The emergence of a new clinical disorder. Cyber Psychology and Behavior 1996; 1(3): 237-244.
3. TÜİK. Statistics by Topic. Turkish Statical Institute, Retrieved from http://www.tuik.gov.tr. 2013.
4. Harris P, Middleton W. The illusion of control and optimism about health: On being less at risk but no more in control than others. British Journal of Psychology 1994; 33: 369-386.
5. Ekşi F, Ümmet D. Internet addiction as a problem of ınterpersonal communication and cyber bullying: Evaluation in terms of psychological consultation. Journal of Values Education 2013; 11(25): 91-115.
6. Günüç S, Kayri M. Internet addiction profile in Turkey and development of internet addiction scale: Validity-reliability study. Hacettepe University, Journal of Education Faculty 2010; 39: 220-232.
7. Greenfield DN. Virtual addiction: Sometimes new technology can create new problems. 1999 Accessed on 14.04.2020, https://virtual-addiction.com/virtual-addiction/
8. Kim S, Kim R. A study of internet addiction: status, causes, and remedies- focusing on the alienation factor. International Journal of Human Ecology 2002; 3(1): 1-19.
9. Henderson E C. Understanding addiction. USA: University Pres of Mississippi 2000. P. 1-14.
10. Griffiths M. Does internet and computer "addiction" exist? Some case study evidence. Cyber Psychology & Behavior 2000; 3 (2): 211-218.
11. Davis RA. A cognitive – behavioral model of pathological internet use. Computers in Human Behavior 2001; 17: 187-195.
12. Caplan SE. Preference for online social interaction: a theory of problematic internet use and psychosocial well-being. Communication Research 2003; 30: 625-648.
13. Kraut R, Paterson M. Internet paradox. American Psychologist 1998; 53: 1017-1031.
14. Sezer F. Factors affecting psychological well-being. E-Journal of New World Sciences Academy 2013; 8(4): 489-504.
15. Valkenburg PM, Peter J. Online communication and adolescent well-being: testing the stimulation versus the displacement hypothesis. Journal of Computer Mediated Communication 2007; 12: 1169-1182.
16. TÜİK. Statistics by Topic. Turkish Statical Institute, Retrieved from http://www.tuik.gov.tr. 2016.
17. Young KS, Rogers RC.The relationship between depression and internet addiction. Cyber Psychology & Behavior 1998; 1 (1): 25-28.
18. Bayraktar F. The role of internet use in adolescent development. Unpublished Master's Thesis. Ege University, Institute of Social Sciences, İzmir. 2001.
19. Balcı S, Yılmaz M. Development of the optimism scale: Validity and reliability study. Journal of Ondokuz Mayıs University, Faculty of Education 2002; 14: 54-60.

20. Çalık E. Investigation of Elementary School Students' Optimism Levels and Perceptions about School. Unpublished Master's Thesis, Ankara University, Institute of Educational Sciences, Ankara. 2008.
21. Korkut F. Development of communication skills evaluation scale: Reliability and validity studies. Journal of Psychological Counseling and Guidance 1996; 2 (7): 18-23.
22. Park JA, Park MH, Shin JH, Li B, Rolfe DT, Yoo JY, et al. Effect of sports participation on Internet addiction mediated by self-control: A case of Korean adolescents. Kasetsart Journal of Social Sciences 2016; 37(3): 164-169.
23. Baltacı G. Çocuk ve spor. 1st ed. Ankara: Klasmat Matbacılık; 2008. P. 7-15.
24. Ergin A, Uzun SU, Bozkurt Aİ. Frequency of internet addiction among medical students and affecting factors. Pam Medical Journal 2013; 6 (3): 134-142.
25. Özgen F. Investigation of the relationship between internet addiction and personality in university students who do sports and do not. Unpublished Master's Thesis, Çanakkale Onsekiz Mart University, Institute of Health Sciences, Çanakkale. 2016.
26. Şenışık S, Hastürk O. Relationship between regular exercise and internet use in adolescents, Journal of Sports Medicine 2011; 46(4): 129-134.
27. Baltaş A, Baltaş Z. Stres ve başa çıkma yolları. 24th ed. İstanbul: Remzi Kitabevi; 2008. P.194-202.
28. Hassmén P, Koivula N, Uutela A. Physical exercise and psychological well-being: A population study in Finland. Preventive Medicine 2000; 30(1): 17-25.
29. Scully D, Kremer J, Meade MM, Graham R, Dudgeon K. Physical exercise and psychological well-being: A critical review. Br J Sports Med 1998; 32:111–120.
30. Müftüoğlu O.Yaşasın hayat. İstanbul: Doğan Kitabevi; 2005.P. 88-92.
31. Doğan T. Investigation of the relationship of social intelligence levels of university students with depression and some variables. Unpublished Master's Thesis, Sakarya University, Institute of Social Sciences. Sakarya. 2006.
32. Adsız E. Investigation of the effect of regular sports on attention in primary school students. Unpublished Master's Thesis, Ege University, Institute of Social Sciences,İzmir. 2010.
33. Akıncı AY. Contribution of physical education and sports activities in secondary education institutions in the socialization process and the formation of personality. Unpublished Master's Thesis. Dumlupınar University, Institute of Social Sciences. Kütahya. 2007.
34. Okuyucu C, Ramazanoğlu F. The Effect of Change in the World on Leisure Activities. 9th International Sports Sciences Congress, Muğla University, Muğla. 2006.
35. Özerkan KN. Introduction to Sports Psychology, Basic Concepts. Ankara: Nobel Publishing and Distribution. Ankara; 2005 5-120.
36. Tiryaki Ş, Erdil G, Acar M, Emlek Y. Personality traits of athletes and non-athletes. Journal of Sports Medicine 1991; (26): 19-23.
37. Tozoğlu E, Bayraktar G. Effects of sports on communication skills: a research on teacher candidates. Research on Humanities and Social Sciences 2014; 4(2): 68-74.
38. Pawlak C. Correlates of Internet use and addiction in adolescents. Dissertation Abstracts International Section A, Humanities & Social Sciences 2002; 63(5-A): 1727.
39. Bond DS, Lyle RM, Tappe MK, Seehafer RS, D'Zurilla TJ. Moderate aerobic exercise, t'ai chi and social problem-solving ability in relation to stress. İnternational Journal Of Stress Management 2002; 9 (4): 329-343.
40. Brown JD. The self presentation (benlik sunumu) (Translated by H. A. Demirtaş). Turkish Psychology Bulletin 2004; 10 (33): 160-165.
41. Çamlıyer H, Çamlıyer H. Eğitim bütünlüğü içinde çocuk hareket eğitimi ve oyun . 4th ed. Manisa, Turkey: Emek Publications; 2001.P.5-20.
42. Ghabeli F, Moheb N, Nasab SDH. Effect of toys and preoperative visit on reducing children's anxiety and their parents before surgery and satisfaction with the treatment process. Journal of Caring Sciences 2014; 3: 21-28.
43. Hazar M. Beden eğitimi ve sporda oyunla eğitim. Ankara: Tutibay Publishing. 2000.P.13.
44. Chung HK, Kim KH. Internet addiction, social support and psychological factors in adolescents. Korean Journal Child Health Nursing 2004; 10 (4): 406-412.
45. Chou C, Hsiao MC. Internet addiction, usage, gratification, and pleasure experience: The Taiwan college

students' case. Computers and Education 2000; 35: 65-80.
46. Vaizoğlu SA, Aslan D, Görmüş U, Ünlügüzel G, Özemri S, Akkuş A. Internet use among high school students in Ankara, Turkey. Saudi Med J 2004; 25: 737-740.
47. Willoughby TA. A short-term longitudinal study of internet and computer game use by adolescent boys and girls: Prevalence, frequency of use, and psychosocial predictors. Develop Psychol 2008; 44: 195-204.
48. Bakken IJ, Wenzel HG, Götestam KG, Johansson A, Øren A. Internet addiction among Norwegian adults: A stratified probability sample study. Scandinavian Journal of Psychology 2009; 50: 121 – 127.
49. İnan A. Internet addiction in elementary school second grade and secondary school students. Unpublished Master's Thesis, Atatürk University, Institute of Social Sciences. Erzurum. 2010.
50. Tsitsika A, Critselis E, Kormas G, Filippopoulou A, Tounissidou D, Freskou A, et al. Internet use and misuse: A multivariate regression analysis of the predictive factors of internet use among Greek adolescents. European Journal of Pediatrics 2009; 168: 655-665.
51. Koivula N. Sport participation: Differences in motivation and actual participation due to gender typing. Journal of Sport Behavior 1999; 22(3): 360-380.
52. Bostancı Ö, Oda B, Şebin K, Erail S. Investigation of optimism and aggression levels of students aged 11–13 according to their sports status. Atatürk University, Journal of Physical Education and Sports Sciences 2017; 19 (4): 205-217.
53. Kalliopuska M. The Relation Of Empathy And Self Esteem With Active Sporting. biennial meeting of the international society for the study of behavioral development (July 12-16 1987). Tokyo. Japan. 1987.
54. Türkel Ç. Investigation of the relationships between elementary school students' level of participation in sports activities and their social adaptation and communication skill levels. Unpublished Master's Thesis, Erciyes University, Institute of Social Sciences. Kayseri. 2010
55. Salmon P. Effects of physical exercise on anxiety, depression, and sensitivity to stress: A unifying theory. Clinical Psychology Review 2001; 21(1): 33-61.