INVESTIGATION OF PROBLEMATIC INTERNET USE AND HEALTHY LIFESTYLE BEHAVIORS AMONG HIGH SCHOOL STUDENTS

Levent Yaycı[i]
Assoc. Prof. Dr.,
Giresun University,
Faculty of Education,
Department of Educational Sciences,
Guidance and Counseling,
Turkey
orcid.org/0000-0001-8997-8918

Abstract:

This study aimed to determine whether problematic internet use and healthy lifestyle behaviors among high school students varied by gender, grade level, academic average, and school type variables and to investigate the relationship between problematic internet use and healthy lifestyle behaviors. The sample of the study consisted of a total of 310 students enrolled in three different high schools in Giresun province in Turkey, including 159 females and 151 males. The study employed the relational screening model. The data collection tools used in the study were the Problematic Internet Use Scale (PIUS), the Healthy Lifestyle Behaviors Scale (HLBS) and a Personal Information Form. Independent group t-test, one-way variance analysis, and Pearson product-moment correlation coefficient were utilized in the analysis of the data. The results of the study indicated that problematic internet use varied by grade level, academic average, and school type variable, it did not show a difference according to gender and whether parents live together or apart variables, and that healthy lifestyle behaviors did not show any difference according to any variables at all. In the study, a low negative correlation was found between problematic internet use and healthy lifestyle behaviors. The findings of the study were interpreted and discussed in light of related literature.

Keywords: problematic internet use, healthy lifestyle behaviors, high school student

1. Introduction

High school years are a critical period for individuals to gain their identity. In this period, individuals both develop personality and prepare for adulthood by going through

---

[i] Correspondence: email levent.yayci@giresun.edu.tr

experiences, establishing identifications, and acquiring some skills. During these years, the influence of friend groups on the individual's social development and the need for acceptance by their friends increase. Adolescents think that only their friends can understand them best, and sometimes they attach more importance to their opinions than the views of their parents. During this period, adolescents may prefer staying alone in their room, sitting alone, talking to their friends on the phone, texting, or playing online games than spending time with their parents. Some adolescents, especially those who cannot get social support from their family and friends, who have communication problems and cannot find solutions to their problems such as coping with their failures in classes, and who cannot meet their expectations of belonging to or acceptance by a group turn to expressing themselves in a virtual world, and thus developing an identity in this way (Taçyıldız, 2010; Odacı & Kalkan, 2010). Factors such as unlimited and easy access to the internet, lack of external control, and the expectation of using technology in education make it easier for students to turn to internet use (Kuss, Griffiths & Binder, 2013). While high school students often use the Internet for playing games, meeting new people, or listening to music (Chou & Hsiao, 2000; Kubey, Lavin & Barrows, 2001; Colwell & Kato, 2003), some students cannot limit the time they spend on the Internet and thus experience disruptions in various areas of their lives. Problematic internet use is a multidimensional syndrome which consists of cognitive and behavioral symptoms producing negative social, academic/professional consequences and is characterized by constant failure to control its use and compulsive use (Morahan-Martin & Schumacher, 2000; Caplan, 2005; Kim & Davis, 2009; Arısoy, 2009; Andreassen, 2012). The time spent on the Internet, which gains pathological characteristic, may lead to the weakening of the social bonds of adolescents, improper friendships (Subrahmanyam & Lin, 2007; Ceyhan, 2008; Yücel & Gürsoy, 2013), decreased academic performance and emotional well-being (Goswami & Singh, 2016), decreased self-efficacy belief (Durmuş & Başarmak, 2014), insomnia, and physical problems such as weakened immune system and back pain (Beranuy et al., 2009).

Although adolescence is a transition period in which young people are vulnerable to health risks and psychosocial risks, it is marked by a much more significance since it is a period in which healthy lifestyle behaviors, which are effective in health promotion, are gained (Spear & Kulbok, 2001; Wong & Hockenbery, 2003; Aras, 2007; Alıcı & Sarıkaya, 2009). Problematic internet use directly affects an individual's maintaining a healthy lifestyle. A healthy lifestyle is the control of all behaviors that may affect the health of individuals, and the selection and regulation of behaviors that are appropriate for their health status (Özkan & Yılmaz, 2008). Individuals who transform these behaviors into attitudes can both maintain their health status and promote their health status to a better level (Yalçınkaya, Özer & Karamanoglu, 2007). However, the health level of societies is measured by the presence of healthy individuals in society in majority (Ayaz, Tezcan & Akıncı, 2005).

In studies carried out abroad, problematic internet use has been associated with variables such as depression and social isolation (Sanders, Field, Diego & Kaplan, 2000),

social skills (Caplan, 2005), loneliness and social anxiety (Caplan, 2007), subjective well-being (Subrahmanyam & Lin, 2007)), psychosomatic symptoms (Cao et al., 2011), social anxiety (Yen et al., 2012), family relationships (Snyder et al., 2015) and work motivation (Reed & Reay, 2015).

A considerable part of studies on problematic internet use conducted in Turkey has been carried out on university students. These studies have investigated the relationship between problematic internet use and communication anxiety (Odacı & Kalkan, 2010), self-perception and self-esteem (Çelik & Odacı, 2012) emotional intelligence (Reisoğlu, Gedik & Göktaş, 2013; Ançel, Açıkgöz & Yavaş-Ayhan, 2015), and loneliness and perceived social support (Oktan, 2015). On the other hand, studies on adolescents have been found to address the relationship between problematic internet use and subjective well-being (Derin, 2013), perceived social support (Günüç & Doğan, 2013), social anxiety (Zorbaz & Tuzgöl-Dost, 2014), life satisfaction (Çınar, 2015), and hopelessness (Şimşek, Akça Kılıç & Şimşek, 2015). No studies have been found investigating the relationship between problematic internet use and healthy lifestyle among high school students.

The 12-18 age range is a risky period in terms of problematic internet use, and while 3.6% of adolescents show internet addiction profile, 21.8% are at the threshold of addiction (Şimşek, Akça Kılıç & Şimşek, 2015). For this reason, students at risk should be identified earlier, adverse environmental conditions should be corrected, and positive changes should be made in their lifestyles by evaluating their lifestyles (Duran & Sümer, 2014). This study investigated the problematic internet use and healthy lifestyle behaviors among high school students. With the evaluation of the study findings, we aimed to contribute to preventive and developmental guidance studies for high school students. The dependent variables of the study were problematic internet use and healthy lifestyle behaviors; independent variables, on the other hand, were socio-demographic characteristics (gender, age, marital status of parents) and some variables related to their education (school type, grade level, achievement status). The present study is considered to be significant in identifying the students at risk, determining the demographic variables related to these students, and contributing to the future guidance programs.

2. Method

This section contains headings such as the research model, the study group, data collection tools, data collection and analysis. The details are presented as follows.

2.1. The Research Model
In this study, the correlational and comparative type of relational screening model was employed. There are two types of relational screening model: correlational type and comparative type: Correlational type research models investigate whether variables show a difference together and how the existing change occurs are examined, whereas comparative type questions whether there is a difference between groups in terms of the

dependent variable by creating groups between at least two variables according to the independent variable (Karasar, 1995).

2.2. The Study Group

The study group of this study consisted of 310 high school students in Giresun Province selected by the stratified random sampling method. The students were stratified according to the type of high school, grade level, and gender. Table 1 presents the number of students in the sample.

Table 1: The distribution of student numbers in the sample

SchoolType	9th grade		10th grade		11th grade		12th grade		Total
	Female	Male	Female	Male	Female	Male	Female	Male	
Vocational High School	9	19	7	11	11	13	10	15	95
Anatolian High School	11	15	16	11	10	12	14	3	92
Science High School	15	13	19	10	21	13	16	16	123
Total	35	47	42	32	42	38	40	34	310

Note: Total study group was composed by 310 students (159 Females, 151 Males).

As is seen in the table, 95 of the students were vocational high school students, 92 were Anatolian High School students, and 123 were Science High School students. The study group consisted of 159 female and 151 male students.

2.3. Data Collection Tools

A. Problematic Internet Use Scale (PIUS)

Developed by Ceyhan, Ceyhan and Gürcan (2007), the PIUS scale aims to measure healthy and unhealthy levels of internet use. It is a five-point Likert type scale consisting of 33 items. The lowest score that can be obtained from the scale is 33 and the highest score is 165. High scores obtained from the scale indicate that the individual's use of the Internet has become unhealthy, the Internet harms the life of the individual, and that the internet use of the individual may lead to a tendency to pathology such as addiction.

In order to determine the criteria-based similar validity of PIUS, the correlation between PIUS and the adapted version of Davis's Online Cognition Scale (Özcan & Buzlu, 2005), which measures problematic internet use in a similar manner, was found to be 0.61 (p <0.0001). The internal consistency coefficient of the scale was 0.95, and the internal consistency coefficient of the three factors that make up the scale was 0.94 for the negative consequences of the Internet, 0.85 for social benefit / comfort, and 0.75 for the length of overuse. The correlation coefficient was found to be 0.81 (p <0.001) in the test-retest reliability study. The item total score reliability coefficients were between 0.31 and 0.70 (Ceyhan, Ceyhan & Gürcan, 2007).

B. Healthy Lifestyle Behaviors Scale (HLBS)

This scale was developed by Walker, Sechrist, and Pender (1987) to test the health promotion model. Initially, the scale consisted of 48 items, but later the number of its items reached 52 with the addition of 4 more items by the same researchers in 1995. The validity and reliability studies of the HLBS were conducted by Esin (1999) and Bahar et al. (2008) in Turkey. The scale measures the health-promoting behaviors of an individual concerning a healthy lifestyle. It consists of 6 subscales including self-realization, health responsibility, exercise, nutrition, interpersonal support, and stress management. Each subscale can be used independently, and the overall scale score gives the score of healthy lifestyle behaviors. The scale has a four-point Likert-type. The lowest and the highest scores that can be obtained from the scale are 52 and 208, respectively. High scores obtained from the scale indicate that the individual applies the specified health behaviors at a high level. Walker found Cronbach's Alpha value, which is the internal consistency reliability coefficient of the scale, as 0.92 for the overall scale. This coefficient varies between 70 and 94 for the subscales (Altay, Çavuşoğlu & Güneştaş, 2015). In studies conducted in Turkey, Cronbach's alpha value was found to be 0.91 (Esin, 1999) and 0.92 (Bahar et al., 2008). Alpha values of the subscales were between 0.55 and 0.84 in Esin (1999) and between 0.64 and 0.80 in Bahar et al. (2008).

C. Personal Information Form

The data of the high school students participating in the study such as gender, marital status of parents, school type, grade level, and achievement level were collected using the personal information form, which was developed by the researcher.

2.4. Data Collection and Analysis

The data were collected by the researcher in classroom environments on the days and hours deemed appropriate by the school administrations. The students were informed about the study, and the principle of volunteering was emphasized. The scales were answered individually by the students. SPSS 21 statistical software package was used to analyze the data. Independent group t-test, one-way analysis of variance (ANOVA), and the Pearson product-moment correlation coefficient were used in the analysis of the data. LSD post-hoc test was employed to determine the differences in the scores which were found to be significant as a result of variance analysis. In statistical analyses, $p < 0.05$ was considered as the level of significance. Kolmogorov-Smirnov test was conducted to test the normality of the distribution, and the data were found to be suitable for the normal distribution.

3. Results and Discussion

Findings about students' problematic internet use and healthy lifestyle behaviors are given below.

Table 2 shows the results of the t-test conducted to determine whether students' scores for problematic internet use and healthy lifestyle behaviors varied by gender.

Table 2: T-test results of students' problematic internet use and
healthy lifestyle behavior scores according to the gender variable

	N	Gender	$\bar{x}$	ss	t	sd	p
Internet use	159	Female	71.77	23.29	-1.247	308	.213
	151	Male	75.18	24.90			
Healthy lifestyle	159	Female	127.94	18.30	-.905	308	.366
	151	Male	130.12	23.82			

As is seen in Table 2, the arithmetic mean of the problematic internet use scores of female and male students were determined as ($\bar{x}$) = 71.77 and ($\bar{x}$) = 75.18, respectively. There was no significant difference between students' total problematic internet use scores according to gender [$t_{(308)}$ = 1.247, p> .05]. On the other hand, the arithmetic mean of healthy lifestyle scores of female and male students were ($\bar{x}$) = 127.94 and ($\bar{x}$) = 130.12, respectively. There was no significant difference between the total scores of students for healthy lifestyle behaviors according to gender [$t_{(308)}$ = .905, p> .05].

Table 3 presents the results of the ANOVA test conducted to determine whether students' problematic internet use and healthy lifestyle behaviors scores differed according to grade level.

Table 3: The results of the ANOVA test showing students' problematic internet
use and healthy lifestyle behaviors scores according to grade level variable

	Source of variance	Sum of squares	Sd	Mean squares	F	p	Significant difference
Internet use	Inter-group	15531,017	3	5177,006	9,666	,000	9-10
	Intra-group	163894,922	306	535,604			9-11
	Total	179425,939	309				9-12
Healthy lifestyle	Inter-group	1406,798	3	468,933	1,048	,372	
	Intra-group	136972,199	306	447,642			
	Total	138378,997	309				

As is seen in Table 3, there was a significant difference between problematic internet use and grade level mean scores ($F_{(3-306)}$ = 9.666; p <0.05). There was a significant difference between grades 9 and 10, 9 and 11, and 9 and 12. The level of problematic internet use in 9th-grade students was significantly higher than that of 10th, 11th, and 12th-grade students. As a result of the analyses, there was no significant difference between healthy lifestyle behaviors and grade level mean scores ($F_{(3-306)}$ = 1.048; p> 0.05).

Table 4 presents the t-test results conducted to determine whether students' scores for the problematic internet use and healthy lifestyle behaviors showed a difference according to whether their parents lived together or apart.

Table 4: T-test results for students' problematic internet use and healthy lifestyle behavior scores according to the variable regarding whether parents lived together or apart

	n	Mother-Father	$\bar{x}$	ss	sd	t	P
Internet use	292	Together	73.60	24.00	308	.551	.582
	18	Separated	70.38	25.63			
Healthy lifestyle	292	Together	129.21	20.90	308	.723	.470
	18	Separated	125.50	25.42			

As is shown in Table 4, the arithmetic mean of the problematic internet use scores of the students whose parents lived together was found to be ($\bar{x}$) = 73.60, while the mean score of those whose parents lived apart was ($\bar{x}$) = 70.38. There was no significant difference between the total scores of the students for problematic internet use according to whether their parents lived together or apart [t $_{(308)}$ =.551, p> .05]. The arithmetic mean of the healthy lifestyle behavior scores of the students whose parents lived together was ($\bar{x}$) = 129.21, whereas the mean score of those whose parents lived apart was ($\bar{x}$) = 125.50. No significant difference was found between the total scores of the students for healthy lifestyle behaviors according to whether their parents lived together or apart [t $_{(308)}$ = .723, p> .05].

Table 5 presents the results of the ANOVA test conducted to determine whether the internet use and healthy lifestyle scores of the students differed according to academic achievement average variable.

Table 5: Results of the ANOVA test conducted to determine whether the internet use and healthy lifestyle scores of the students varied by academic achievement average variable

	Source of the variance	Sum of squares	sd	Mean squares	F	p	Significant difference
Internet use	Inter-group	8566,450	5	1713,290	3,048	0,011	1-4,1-5,1-6
	Intra-group	170859,489	304	562,038			2-4,2-5,2-6
	Total	179425,939	309				3-4,3-5,3-6
Healthy lifestyle	Inter-group	4737,141	5	947,428	2,155	0,059	
	Intra-group	133641,856	304	439,611			
	Total	138378,997	309				

*40-49= 1, 50-59= 2, 60-69=3, 70-79=4, 80-89=5, 90-100=6.

As shown in Table 5, a significant difference was found between problematic internet use and academic achievement average variable (F = 3.048; p <0.05). The results of the analysis indicated that there was a difference between the following academic achievement averages: (40-49; 70-79), (40-49; 80-89), (40-49; 90-100), (50-59; 70-79), (50-59; 80-) 89), (50-59; 90-100), (60-69; 70-79), (60-69; 80-89), (60-69; 90-100). Students with (40-49), (50-59) and (60-69) academic average were determined to have significantly higher problematic internet use compared to students with (70-79), (80-89) and (90-100) academic averages. There was no significant difference between healthy lifestyle behaviors and academic achievement average variable (F = 2.155; p> 0.05).

Table 6 gives the results of the ANOVA test carried out to determine whether the problematic internet use and healthy lifestyle behavior scores of the students varied by the type of high school.

Table 6: ANOVA test results for students' problematic internet use
and healthy lifestyle behavior scores according to high school type

	Source of the variance	Sum of squares	sd	Mean squares	F	p	Significant difference
Internet use	Inter-group	6822,111	2	3411,056	6,067	0,003	Vocational-Science
	Intra-group	172603,827	307	562,227			
	Total	179425,939	309				
Healthy lifestyle	Inter-group	451,375	2	225,687	0,502	0,606	
	Intra-group	137927,622	307	449,276			
	Total	138378,997	309				

As is shown in Table 6, a significant difference was found between problematic internet use and the school type variable ($F_{(2-307)}$ = 6.067; p <0.05). The level of students' problematic internet use was found to vary by the type of school they were studying. The results of the analysis indicated that the problematic internet use scores of vocational high school students were determined to be higher than those of Anatolian high school and science high school students. Particularly, the difference between vocational high school students and science high school students was significant in favor of science high school students. The level of vocational high school students' problematic internet use was significantly higher than the level of science high school students. No significant difference was found between the problematic internet use scores of vocational high school-Anatolian high school students and Anatolian high school-science high school students. The results of the analyses revealed that there was no relationship between students' healthy lifestyle behaviors and school type variable $F_{(2-307)}$ = .502; p> 0.05

Table 7 presents the results of Pearson's correlation coefficient conducted to determine the relationship between students' scores for problematic internet use and healthy lifestyle behaviors.

Table 7: The results of Pearson's correlation coefficient conducted to determine the relationship
between students' scores for problematic internet use and healthy lifestyle behaviors

	PIUS		Negative Consequences		Social Benefit		Overuse	
	r	p	r	p	r	p	r	p
HLBS	-.219	.000	-.201	.000	-.209	.000	-.126	.027
Spirituality	-.273	.000	-.267	.000	-.268	.000	-.106	.062
H. Responsibility	-.037	.513	-.013	.826	-.065	.254	-.051	.369
Exercise	-.137	.016	-.112	.049	-.115	.043	-.142	.012
Nutrition	-.144	.011	-.127	.025	-.125	.028	-.101	.074
Interpersonal S.	-.171	.002	-.174	.002	-.162	.004	-.045	.426
Stress Management	-.237	.000	-.224	.000	-.216	.000	-.132	.020

The results of the correlation analysis indicated that there was a low negative correlation between problematic internet use and healthy lifestyle behaviors (r = -.219; p <.05). In the table, the correlation analysis of the sub-dimensions was also given in detail. A low level of relationship was found between problematic internet use and spirituality (r = -. 273; p <.05) and stress management (r = -. 237; p <.05), while there was a very low level negative relative relationship between problematic internet use and exercise (r = -. 137; p <.05), nutrition (r = -. 144; p <.05), and interpersonal support (r = -.171; p <.05) sub-dimensions. No relationship was found with health responsibility (r = -. 037; p> .05) sub-dimension. A low negative relationship was found between healthy lifestyle behaviors and the sub-dimensions of problematic internet use, such as negative consequences of internet use (r = -.201; p <.05) and social benefit/comfort (r = -. 209; p <.05), whereas there was a very low and negative correlation with the excessive use of the Internet (r = -. 126; p <.05).

A low level negative relationship was found between the spirituality sub-dimension of healthy lifestyle behaviors scale and the negative consequences of internet use (r = -. 267; p <.05) and social benefit/comfort (r = -. 268; p <.05). There was a very low level negative relationship between exercise sub-dimension and the negative consequences of internet use (r = -. 112; p <.05), social benefit/comfort (r = -. 115; p <.05), and excessive use of the Internet (r = -. 142; p <. 05). Also, a very low negative relationship was found between nutrition sub-dimension and the negative consequences of internet use (r = -. 127; p <.05) and social benefit/comfort (r = -. 125; p <.05). On the other hand, there was a very low negative relationship between interpersonal support and the negative consequences of internet use (r = -. 174; p <.05) and social benefit/comfort (r = -.162; p <.05). Moreover, there was a low negative relationship between stress management sub-dimension and negative consequences of internet use (r = -. 224; p <.05) and social benefit/comfort (r = -. 216; p <.05) sub-dimensions, while a very low level negative relationship was found with the excessive use of the Internet (r = -.132; p <.05). There was no significant relationship between spirituality and excessive internet use, which are sub-dimensions of healthy lifestyle behaviors scale (r = -. 106; p> .05); between health responsibility and negative consequences of the Internet (r = -. 013; p> .05), social benefit/comfort (r = -. 065; p> .05), and excessive use of the Internet (r=-.051; p>.05), which are sub-dimensions of problematic internet use scale; and between nutrition sub-dimension and excessive use of the Internet (r=-.101; p>.05), and between interpersonal support and excessive use of the Internet (r=-.045; p>.05).

4. Conclusion and Recommendations

When the findings were analyzed based on the main problem of the study, no significant difference was found between genders in terms of problematic internet use. Nevertheless, the mean scores obtained from the problematic internet use scale in males were higher than the mean scores of girls. This finding is consistent with study findings indicating that problematic internet use does not vary by gender (Ceyhan, 2011; Smahel, Brown & Blinka, 2012). While there are studies indicating that the mean problematic internet use

score of male students is statistically higher than those of female students (Chen, Weng, Su & Wu 2003; Çakır-Balta & Horzum, 2008; Mottram & Fleming, 2009), there are also studies showing that problematic internet use scores of females are higher than those of males (Odacı & Çelik, 2011). The inexistence of differences in problematic internet use in terms of gender can be explained by the developmental task of both boys and girls to establish their identity and close relationships. The Internet may have become an indispensable tool because it provides a comfortable environment for students who have difficulty in performing these developmental tasks (Ceyhan, 2010). Besides, the difference between the study results may have stemmed from the differences in the aims of female and male students' internet use. In the study, no significant difference was found between healthy lifestyle behaviors in terms of genders. The results of the study are consistent with the results of Aktaş-Özakgül et al. (2016). This may be explained by the fact that there are no distinct references to gender roles and child-rearing attitudes in the Turkish culture on subjects such as spirituality, nutrition, exercise, health responsibility, stress management, and interpersonal support. Besides, the mean scores of students for healthy lifestyle behaviors were close to the desired level.

According to the second finding of the study, the problematic internet use indicated a significant difference by the grade level variable. This difference was against the 9th-grade students. 9th-grade students were found to exhibit more problematic internet use behaviors than the students in other grades. Considering the education system in Turkey, 9th-grade students go through an intensive period due to the transition to secondary education exam before starting school. This situation can be thought to cause more drowsiness in 9th-grade students compared to the previous year and to cause them to weaken their self-control mechanisms in terms of spending their daily time on the Internet. Besides, these students also have difficulty making friends in a new environment, which can be thought to lead students to the virtual world. As is seen in Table 3, as students' grade level increased, the mean scores obtained from the PIUS decreased, too. This can be thought to have stemmed from factors such as the approaching university preparation process, making new friends and heading for social activities, and sparing time for personal interests as the interests become more evident and consistent.

As for the third finding of the study, there was no significant difference in students' problematic internet use and their healthy lifestyle behaviors according to whether their parents lived together or apart. The finding that there was no significant difference between students' problematic internet use and a core family structure was found consistent with the 2008 report of the Turkish Republic Prime Ministry General Directorate of Family and Social Research titled "Internet Use and Family".

Table 5 presents students' problematic internet use behaviors classified according to their academic achievement. A significant difference was found between students' problematic internet use behaviors according to their academic achievement levels. The students with low academic achievement scores (ranging between 40 and 70) were determined to obtain high scores from the PIUS. This result was consistent with the study

findings of Derin (2013), Toraman (2013), and Gamez-Guadix, Calvete, Orue & Las Hayas (2014). On the other hand, no significant difference was found between students' healthy lifestyle behaviors in terms of their academic average levels. This can be thought to originate from the fact that the four sub-dimensions of healthy lifestyle behaviors other than nutrition and stress management had no direct effect on academic achievement.

According to the fifth finding of the study, there was a significant difference between students' problematic internet use in terms of the school type. This difference was between vocational high school and science high school. Science high schools accept students with the highest scores from the test of transition to high school. On the other hand, industrial vocational high schools accept students with much lower scores. It can be predicted that factors such as attitudes towards studying, productive studying behaviors, and time management affect the high level of achievement of science high school students. This may suggest that these students can control their internet use time and use the Internet at a level that does not hinder their academic responsibilities.

The final finding of the study indicated that there was a low negative relationship between students' problematic internet use and their healthy lifestyle behaviors. Negative relationships were found between the negative consequences of the Internet and social benefit sub-dimensions of PIUS and self-realization, exercise, nutrition, interpersonal support, and stress management sub-dimensions of healthy lifestyle behaviors scale; and between excessive use of the Internet and exercise and stress management sub-dimensions. These results were consistent with the findings that problematic internet use disrupts adolescents' daily routine (Tsai & Lin, 2003), causes some physical problems (Tahiroğlu et al. 2010), and causes social isolation (Sinkkonen, Puhakka & Merilainen, (2014).

Students, who have problematic internet use, spend most of their time on the Internet, and this may cause them to postpone certain things in their lives. This situation can be predicted to lead to many negative consequences, from physical health problems to failing in self-realization and irregular nutrition. According to the findings, when students experience a decrease in interpersonal support and when they cannot cope with stress, they can be said to tend to problematic internet use. These results were consistent with Kim & Chun's (2005) study on university students reporting that "those with high levels of problematic internet use have low health promotion behaviors and low levels of health perception". Also, virtual friendships established on the internet among students can prevent them from developing communication skills (Ceyhan, 2008) and may reduce their emotional well-being (Goswami & Singh, 2016).

Students' excessive use of the Internet, other than performing some academic tasks and communication activities in a practical and better way, affects their academic success and communication skills, and especially their health. The inability of students to control the time they spend on the computer makes it difficult for them to accomplish some developmental tasks. Therefore, students and parents can be given informative training about safe internet use at all levels of education. Locating the computer in a room other than the child's room at home may make it easier to control students' access to secure

sites. Parents can be informed about spending quality time and establishing healthy communication with their children, since the lack of adequate sharing in the family may lead students to spend more time on the Internet. Students' lives can be enriched by increasing the number of club, sporting, and social activities at schools. Youth centers, schools, municipalities, and non-governmental organizations can organize activities outside school hours to develop a culture of exercise and healthy nutrition for students, and students can be trained to inform their peers about this issue. Since students with high self-esteem or social anxiety levels can turn to problematic internet use, some psycho-education groups can be formed to support the self-esteem of these students and improve their social skills. Routine referral services should be provided to perform medical evaluations of students who are depressed, who show intense social anxiety, and who show dispersed identity symptoms.

Conflict of Interest Statement
The author declares no conflicts of interests.

About the Author
Dr. Levent Yaycı is as an Assoc. Professor at the Department of Educational Sciences, Guidance and Counseling, Faculty of Education, Giresun University, Turkey. His research area is group counseling and guidance.

References

Aktaş- Özakgül., A., Atabek-Aştı., T, Ataç, M., & Mercan, K. (2016). Lise son sınıf öğrencileri sağlıklı yaşam biçimi davranışlarına sahipler mi? *Florence Nightingale Hemşirelik Dergisi, 24*(1), 16-23.

Altay, B., Çavuşoğlu, F., & Güneştaş, İ. (2015). Tıp fakültesi hastanesinde çalışan hemşirelerin sağlıklı yaşam biçimi davranışları ve etkileyen faktörler. *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 8*(1), 12-18.

Ançel, G., Açıkgöz, İ., & Yavaş-Ayhan, A. G. (2015). Problemli internet kullanımı ile duygusal zeka ve bazı sosyodemografik değişkenler arasındaki ilişki. *Anadolu Psikiyatri Dergisi,16,* 255-263. DOI: 10.30900/kafkasegt.603734

Andreassen, C. S. (2012). Development of a facebook addiction scale. *Psychological Reports, 110*(2), 501-517. DOI:10.2466/02.09.18.PR0.110.2.501-517.

Ayaz, S., Tezcan, S., & Akıncı, F. (2005). Hemşirelik yüksekokulu öğrencilerinin sağlığı geliştirme davranışları. *Cumhuriyet Üniversitesi Hemşirelik Yüksek Okulu Dergisi, 9*(2), 26-34.

Bahar, Z., Beşer, A., Gördes, N., Ersin, F., & Kıssal, A. (2008). Sağlıklı yaşam biçimi davranışları ölçeğinin geçerlik ve güvenirlik çalışması. *C.Ü. Hemşirelik Yüksekokulu Dergisi, 12*(1), 1-13.

Beranuy, M., Oberst, U., Carbonell, X., & Chamarro, A. (2009). Problematic internet and mobilephone use and clinical symptoms in college students: the role of emotional intelligence. *Computers in Human Behavior, 25,* 1182-1187. DOI: 10.1016/j.chb.2009.03.001

Caplan, S. E. (2005). A social skill account of problematic internet use. *Journal of Communication, 55*(4), 721-736.

Caplan, S. E. (2007). Relations among loneliness, social anxiety, and problematic internet use. *CyberPsychology & Behavior, 10*(2), 234–242.

Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *BMC Public Health, 11,* 802-815.

Ceyhan, E. (2008). Ergen ruh sağlığı açısından bir risk faktörü: internet bağımlılığı. *Çocuk ve Gençlik Ruh Sağlığı Dergisi, 15*(2), 109-116.

Ceyhan, E. (2010). Problemli internet kullanım düzeyi üzerinde kimlik statüsünün, internet kullanım amacının ve cinsiyetin yordayıcılığı. *Kuram ve Uygulamada EğitimBilimleri/Educational Sciences: Theory &Practice, 10*(3), 1323-1355.

Chou, C. & Hsiao, M. C. (2000). Internet addiction, usage, gratifications, and pleasure experience: The Taiwan College Students Case. *Computers & Education, 35*(1), 65-80.

Colwell, J. & Kato, M. (2003). Investigation of the relationship between social isolation, self-esteem, aggression and computer game play in Japanese adolescents. *Asian Journal of Social Psychology, 6,*149-158.

Çelik Ç., B. & Odacı, H. (2012). Kendilik algısı ve benlik saygısının problemli internet kullanımı üzerindeki yordayıcı rolü. *E-Journal of New World Sciences Academy, 7*(1), 433-441.

Çınar, M. (2015). *Ergenlerin problemli internet kullanım davranışları ile yaşam doyumları arasındaki ilişkinin incelenmesi* (Unpublished master's thesis) İstanbul Aydın Üniversitesi, İstanbul.

Derin, S. (2013). *Lise öğrencilerinde internet bağımlılığı ve öznel iyioluş* (Unpublished master's thesis) Hacettepe Üniversitesi, Ankara.

Duran, Ö. & Sümer, H. (2014). Ebelik öğrencilerinin sağlıklı yaşam biçimi davranışları ve etkileyen faktörler. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 17*(1), 40-49.

Durmuş, A. & Başarmak, U. (2014). Öğretmen adaylarının eğitsel internet kullanım özyeterlik inançları ve problemli internet kullanım durumları arasındaki ilişkinin incelenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 15*(3), 49-67.

Ergün, A. & Erol, S. (2007). Lise öğrencilerinin sağlıklı yaşam biçimi davranışları. *Hemşirelik Forumu.* Ocak-Şubat/Mart-Nisan: 46-51.

Esin, M. N. (1999). Sağlıklı yaşam biçimi davranışları ölçeğinin Türkçe'ye uyarlanması. *Hemşirelik Bülteni, 12*(45), 87-96.

Fleming, P. & Marshall, G. (2008). Lifestyle interventions in primary care. Systematic review of randomized controlled trials. *Can Fam Physician.* 54, 1706-1713.

Gamez-Guadix, M., Calvete, E., Orue, I., & Las Hayas, C. (2015). Problematic internet use and problematic alcohol use from the cognitive-behavioral model: A longitudinal study among adolescents. *Addictive Behaviors, 40*, 109–114.

Goswami, V. & Singh, D. R. (2016). İnternet addiction among adolescents: A review of theresearch. *The International Journal of Indian Psychology, 3*(3), 37–44.

Günüç, S. & Doğan, A. (2013). The relationships between Turkish adolescents' internet addiction, their perceived social support and family activities. *Computers in Human Behavior, 29*(6), 2197– 2207.

Kubey, R. W., Lavin, M. J., & Barrows, J. R. (2001). Internet use and collegiate academic performance decrements: Early findings. *Journal of Communication, 51*(2), 366-382.

Kuss, D. J., Griffiths, M. D., & Binder, J. F. (2013). Internet addiction in students: Prevalence andrisk factors. *Computers in Human Behavior. 29*(3), 959-966. DOI: 10.1016/j.chb.2012.12.024

Larouche, R. (1998). Determinants of college students' health-promoting lifestyles. *Clin Excell Nurse Pract, 2*(1), 35-44.

Morahan-Martina, J. & Schumacher, P. (2000). Incidence and correlates of pathological internet use among college students. *Computers in Human Behavior, 16*, 13-29.

Ocakçı, A. (2018). Sağlığın korunma ve geliştirilmesinde hemşirelik hizmetlerinin rolü. Retrieved from http://server.karaelmas.edu.tr/saglik/skg.htm

Odacı, H. & Kalkan, M. (2010). Problematic internet use, loneliness and dating anxiety among young adult university students. *Computer & Education, 55,* 1091-1097. DOI: 10.1016/j.compedu.2010.05.006

Oktan, V. (2015). Üniversite öğrencilerinde problemli internet kullanımı, yalnızlık ve algılanan sosyal destek. *Kastamonu Eğitim Dergisi, 23*(1), 281-292.

Özcan, N. K. & Buzlu, S. (2005). An assistive tool in determining problematic internet use: validity and reliability of the "online cognition scale" in a sample of university students. *Journal of Dependence,* 6, 19–26.

Reed, P. & Reay, E. (2015). Relationship between levels of problematic internet usage and motivation to study in university students. *The International Journal of Higher Education Research, 70*(4), 711-723. DOI.10.1007/s10734-015-9862-1

Reisoğlu, İ., Gedik, N., & Göktaş, Y. (2013). Öğretmen adaylarının özsaygı ve duygusal zeka düzeylerinin problemli internet kullanımıyla ilişkisi. *Eğitim ve Bilim, 38*(170), 150-165.

Sanders, C. E., Field, T. M., Diego, M., & Kaplan, M. (2000). The relationship of internet to depression and social isolation among adolescents. *Adolescence, 35*(138), 237-242.

Sinkkonen, H. M., Puhakka, H., & Merilainen, M. (2014). Internet use and addiction among Finnish adolescents (15-19 years). *Journal of Adolescence, 37*(2), 123–131. DOI: 10.1016/j.adolescence.2013.11.008

Snyder S. M., Li W., O'Brien J. E., Howard M. O. (2015). The effect of U.S. university students' problematic internet use on family relationships: A mixed-methods investigation. *PLoS One 10*(12), 1-13. DOI:10.1371/journal.pone.0144005

Subrahmanyam, K., & Lin, G. (2007). Adolescents on the net: Internet use andwell-being. *Adolescence, 42*, 659-677.

Şimşek, N., Akça Kılıç, N., & Şimşek, M. (2015). Lise öğrencilerinde umutsuzluk ve internet bağımlılığı. *Türk Silahlı Kuvvetleri Koruyucu Hekimlik Bülteni, 14*(1), 7–14.

Taçyıldız, Ö. (2010). *Lise öğrencilerinin internet bağımlılığı düzeylerinin bazı değişkenlere göre yordanması* (Unpublished master's thesis) Ege Üniversitesi, İzmir.

Tahiroğlu, A. Y., Çelik, G., Fettahoğlu, Ç., Yıldırım, V., Toros, F., Avcı, A., Özatalay, E., & Uzel, M. (2010). Psikiyatrik bozukluğu olan ve olmayan ergenlerde problemli internet kullanımı. *Nöropsikiyatri Derneği Dergisi*, 47, 241–246.

Toraman, M. (2013). *İnternet bağımlılığı ve sosyal ağ kullanım düzeylerinin ortaöğretim öğrencilerinin akademik başarıları ile ilişkisinin incelenmesi* (Unpublished master's thesis) Fırat Üniversitesi, Elazığ.

Tsai, C. C., & Lin, S. J. (2003). İnternet addiction of adolescents in Taiwen: An interview study. *Cyber Psychology & Behaviour, 6*(6), 649–653. DOI:10.1089/109493103322725432

T. C. Başbakanlık Aile ve Sosyal Araştırmalar Genel Müdürlüğü (2008). İnternet kullanımı ve aile. T.C. Başbakanlık Aile ve Sosyal Araştırmalar Genel Müdürlüğü Yayınları. Yayın No: 133. Ankara.

Yalçınkaya, M., Özer, F. G., & Karamanoğlu, A. Y. (2007). Sağlık çalışanlarında sağlıklı yaşam biçimi davranışlarının değerlendirilmesi. *TSK Koruyucu Hekimlik Bülteni, 6*(6), 409-20.

Yen, Y. Y., Yen, C. F., Chen, C. S., Wang, P. W., Chang, Y. H., & Ko, C. H. (2012). Social anxietyin online and reallife interaction and their associated factors. *CyberPsychology, Behavior and Social Networking, 15*(1), 712. DOI: 10.1089/cyber.2011.0015.

Zorbaz, O., & Tuzgöl-Dost, M. (2014). Lise öğrencilerinin problemli internet kullanımının cinsiyet, sosyal kaygı ve akran ilişkileri açısından incelenmesi. *Hacettepe Üniversitesi EğitimFakültesi Dergisi [Hacettepe University Journal of Education], 29*(1), 298-310.