A COMPARATIVE STUDY OF PROBLEMATIC INTERNET USE AND LONELINESS AMONG TURKISH AND KOREAN PROSPECTIVE TEACHERS

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ABSTRACT
The main aim of this study is to compare the problematic internet use and its relation to loneliness among two nations' prospective teachers, Turkey and South Korea. Five hundred and ninety five prospective teachers from three universities, two from Turkey and one from South Korea participated in the study. Generalized Problematic Internet Use Scale 2 and UCLA Loneliness Scale were used to collect data. Some of the major findings are as follows: a) No differences were found between the problematic Internet use of Turkish and Korean prospective teachers; b) Male Turkish prospective teachers found to have more problematic use of internet than female counterparts on the other hand no differences were found among South Korean prospective teachers by means of sex; c) Positive but low correlations between problematic Internet use and loneliness levels of prospective teachers of both nations; d) There is a significant difference between Turkish and Korean prospective teachers. South Korean prospective teachers were found to be in higher levels of loneliness than Turkish counterparts.
Keywords: Problematic internet use, internet addiction, prospective teachers, comparative study

INTRODUCTION
In today's world technology has been prevalently used in almost all spheres of life and as a consequence the personal ownership ratio of computer and internet is rapidly increasing each year. According to a research on Information Technologies Use employed by Turkish Institute of Statistics, the ratio of computer use and internet access in enterprises was 88,7% and 85,4% in January 2007 whereas in January 2008 these rates respectively increased to 90,6% and 89,2%. In January 2010, the ratio of internet access was 90,9% (Turkish Institute of Statistics, 2011).

Meanwhile, statistics (2011) from the Korea Communications Commission, which is a Korean government organization, show household's computer possession ratio was 80.4% and Internet access ratio was 79.8% except enterprises in 2007, and it was 93.2%, 83.4% in 2010, which was increased 12.8%, 3.8%, respectively. In addition, the subscription ratio of broadband Internet access system has been rapidly increased since 2005. As of 2010, the number of broadband Internet access system's subscribers is estimated that about 37% of the nation's population is exploiting the broadband Internet access system, and the ratio has been sharply increased.

The reason accounting for this quick rise in internet use is certainly related to the services it provides and its easy access. Internet has been widely used for a variety of purposes in several domains. As stated by Deniz and Coşkun (2004) as an educational tool internet lets access to inexpensive, global, interactive and intensive computer communication and it also enables the student to improve his/her learning experience. Online users can easily access internet from a bunch of locations including their homes, workplaces, houses, school, internet cafes etc. The researches also put forth that (Ceyhan, Ceyhan and Gürcan, 2007; Deniz, 2001, 2007; Deniz and Coşkun, 2004; Tutgun, 2009; Tutgun and Deniz, 2010) most of the students reported to have easy access to computers and internet.

The principal functions of internet are increasing the means of researchers, facilitating the communication and enabling data share however the uncalculated rise of internet use started to introduce several problems as well.

Some individuals manage to limit their internet use within the required time whereas certain people face problems at school, work or social life since they fail to draw the boundaries and excessively use the internet. The term internet addiction was introduced for the first time by Goldberg (1996) in a forum website and a list of symptoms was defined. Right after that, incredible numbers of people from the whole world sent their complaints to this forum site regarding internet use. Hence a global research domain emerged and a good number of researchers and clinicians started to conduct studies on internet addiction. The earliest indicators of internet addiction were developed by Goldberg (1996), DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) parallel to the diagnosis measurements of alcohol addiction, subsequently, for internet addiction and internet misuse Young (1996b) developed certain criteria in line with diagnosis measurements of Pathologic gambling presented in DSM-IV (American Psychiatric Association, 1995). Following the cases exemplified by clinicians, a new dispute emerged; whether the internet caused addiction or excessive usage of internet was simply a behavioral indicator of already- existing psychological problems that were manifested through internet (Keser Özcan and Buzlu, 2005; King and Barak, 1999). Further studies employed several new concepts like internet addiction, internet dependency, problematic internet usage, pathologic internet usage, internet behavior addiction and cyber addiction.

Young (1996b) favored the term internet addiction and drew a parallel between internet addiction and drug or alcohol addiction since they all brought about academic, social and professional losses. In subsequent researches, Young (1996b) described "Problematic internet usage" based on "Pathological gambling" criteria (Young and Rogers, 1998; Young, 1996b). According to Young (1996a) problematic internet users who spare little time for real people in life prefer to spend time alone on computer and the same finding is demonstrated in several other researches as well (Deniz and Tutgun, 2010; Kraut, Kiesler et al., 2002). Kandell (1998) defined internet addiction as a psychological addiction which particularly affected teenagers and he emphasized that excessive usage of internet was likely to introduce problems related to health, social relations and time management. The researches covering young population, university students in particular, have manifested rather critical findings and revealed that university students formed the most risky group (Ceyhan, Ceyhan and Gürcan, 2007; Deniz and Tutgun, 2010; Kandell, 1998; Lavin, Marvin et al., 1999; Morahan-Martin and Schumacher, 2000; Tutgun and Deniz, 2010; Young, 2006).

As put forth by Caplan (2005) Problematic internet usage is a multi-dimensional syndrome composed of cognitive and behavioral symptoms causing negative social, academic/professional outcomes. According to this perspective, the term internet addiction on its own is not encompassing enough hence the terms pathologic or problematic have also found place in literature. Afterwards based on the generalized problematic internet usage developed by Davis (2001), Caplan (2010) developed a multi dimensional measurement tool named as Generalized Problematic Internet Use Scale 2 (GPIUS2) according to cognitive-behaviorist model and indicated that people's self expression habit on internet which is connected to their lack of self trust brought about significant numbers of negative consequences on their lives. In present study too, the measurement tool developed by Caplan (2010) has been used after adapting into Turkey and Korea.

LITERATURE REVIEW
Studies of Problematic Internet Usage in Turkey fall short in describing pathological dimensions of internet addiction and researchers relate its causes to several different reasons. Gönül (2002) puts forth that addiction is not to internet but its context and the means it provides. On the other hand the clinicians studying this field in Turkey note that internet addictive users have additional clinical findings (Köroğlu, Öztürk et al., 2006; Odabaşıoğlu, Öztürk et al., 2007; Öztürk, Odabaşıoğlu et al., 2007).

While investigating the causes of problematic internet use, the researchers also attempted to develop measurements tools to determine the problematic internet usage. In Turkey since the measurement tools detecting problematic internet use in particular are limited, these researches have been given priority.

In Keser Özcan and Buzlu's (2005) research, the validity and reliability of Online Cognition Scale developed in 2002 by Davis to detect problematic internet usage amongst the sampling of university students has been examined and adapted into Turkish. The research has been carried out among 148 university students who spent at least two hours online in a week. At the end of this research, parallel to the original scale an Online Cognition Scale with 36-item four-factored (loneliness-depression, lessened motivation control, social support and distraction) has emerged. On the other hand, Ceyhan, Ceyhan and Gürcan (2007) in their research have developed a measurement tool to detect problematic internet usage amongst university students. The researchers detected that 5 Likert type scale consisted of total 33 items and in the development stage of scale they manifested that according to the data gathered from 1658 university students, the scale was composed of three factors(negative consequences of internet, social benefit/ social comfort, excessive usage). The specific scale has

no objective of diagnosing people with internet addiction by measuring problematic internet usage but aims to exhibit the healthy and unhealthy usage levels of internet. Kayri and Günüç (2009) conducted a study to detect structural validity and internal consistency coefficient of the Turkish adaptation of Internet Addiction Scale originally developed by Nichols and Nicki (2004). Turkish adapted scale consisted of 30 items which were all positive and was scaled with 5 Likert type grading. Certain gaps and Internet addiction levels have been determined according to the scores obtained from scale. Accordingly the ones receiving above 90 scores were categorized as internet addicts. In the same research, 31 university students were grouped as internet addict.

As reported by Öztürk, Odabaşıoğlu et al. (2007) this addiction type comes to surface when the person fails to limit internet usage, keeps staying online despite the social or academic losses or feels deep anxiety when faced with a restriction on internet usage. This addiction type, diagnosed with above-mentioned symptoms, has been extensively analyzed in psychiatry literature since the mids of 1990s. The clinical pictures of excessive internet usage put forth that a typical internet addict spend 40-80 hours a week online and can stay online 20 hours straight. Those patients whose sleep routine is diverted may start to use stimulants, drink excessive amounts of coffee or Coke and as a consequence of lessened physical activity they may face obesity, carpal tunnel syndrome, backache and posture disorders.

In Odabaşıoğlu, Öztürk et al.'s (2007) research case studies have been presented and student groups with different complaints have been examined. The research findings demonstrate that internet addiction that is widely common among teenagers in particular spoils the mental and physical development of patients, adversely affects social relations and academic success as well. According to the research, there is a 1,5 year period of time changing between 6 months to 3 years prior to misuse or addiction of internet. As the time spent online a week is examined it is found that there is an average of 7-8 hours changing between 4 to 20 hours.

Tutgun and Deniz (2010) have examined problematic internet usage of prospective teachers in Education Faculties with respect to certain variables (gender, department, university, daily use etc.). It has been detected in the research that problematic internet usage of prospective teachers was in medium level. The rest of the findings revealed that with respect to gender, male and female prospective teachers differed in terms of problematic internet usage level. As the level of daily internet usage rose so did problematic internet usage level and prospective teachers describing themselves fully competent computer users were, compared to the ones feeling less competent, more oriented towards problematic internet usage. Another research finding showed that freshmen students were, compared to senior students, more oriented towards problematic internet usage. The comparison with respect to department indicated that prospective teachers in the Department of Computer and Teaching Instructional Technologies were more inclined to problematic internet usage than the prospective teachers in other departments (Science-Mathematics, Fine Arts, and Social Sciences).

In a different study Deniz and Tutgun (2010) analyzed the relation between loneliness levels and problematic internet usage of prospective teachers. The research finding demonstrated that there is a correlation between loneliness levels and problematic internet usage of prospective teachers studying at education faculties. Taking into account the fact that if a prospective teacher who is expected to be a professional role model in many aspects for students is trapped in problematic internet usage and faces academic, social and familial losses, present research signals even more significance to take necessary precautions with no delay. Another study, in which the university students have been examined in terms of gender and loneliness, supports these findings (Odaci and Kalkan, 2010).

In the same way, similar researches were conducted in South Korea. In particular, led by the government, the Internet addiction level of the nation for general people and youths has been analyzed to make public the result every year since 2002. Most of the university hospitals have run rehabilitation programs related to Internet addiction based on the result since 2010. Furthermore, this study found that legislation is recently promoted at the national assembly regarding treatment and improvement for various digital addiction including game addiction as well as Internet addiction.

According to 'Actual condition survey on Internet addiction of Korean in 2010' that is conducted through door-to-door interview method for the entire people by the Korean government and released in March, 2011, the Internet addiction levels (IALs) of age 9 ~ 39 among the Korean, who use Internet more than once within recent a month, is represented as 8.0% (Ministry of Public Administration and Security, 2010). In the survey for each age group, the numbers of Internet addicted elementary, middle, high school students are 13.7%, 12.2%, 10.0%, respectively, and adult's IALs is estimated 8.0% for 20s, 4.0% for 40s.

Furthermore, the IALs survey conducted according to the home environment for reflecting in the welfare policy shows the IALs is also different depending on income. Regardless of age groups, the IALs survey for each household's income shows the IALs of households below the middle class is the highest of 11.9%, and the case of above the middle class is only 6.6%.

On the other hand, the IALs of the poor reaches 11.1%, in particular, a high-risk group[1] for Internet addiction in this class is as many as 3.7%. Moreover, the high-risk group of one-parent families (7.3%) is more than 2 times than both-parent families (3.0%), and the IALs of multicultural families (37.6%) is high more than 3 times than the average families (12.3%). This result shows the social low-income and neglected groups are likely to be exposed to the risk of Internet addiction more than the above middle class.

Especially, a serious problem is that the entire IALs of youth groups is decreased, however, the number of high-risk youths with a high immersion level of Internet is 3.1%, which shows 3.1% of increase comparing to 2009. In addition, the mobile phone's IALs conducted first in this survey is 11.1%. Therefore, the need of diversified studies is presented according to a qualitative problem of Internet addiction and an introduction of new platforms.

A positive aspect obtained from this result is that the IALs of the entire people has been gradually decreasing from 2004 when the survey was begun. The IALs of the entire people is indicated as the decrease from 8.5% in 2009 to 8.0% in 2010. The IALs of youths is also lowered from 14.4% in 2007 to 12.8% in 2009 (National Information Society Agency, 2009), 12.4% in 2010. The report says that this is a result from systematic and scientific actions of Korean government and schoolteachers. Therefore, considering the importance that students of their adolescence are in self-formation ages related to a collective-efficacy and self-efficacy for their studies and society, it could be said that a systematic study is very important for PIU dependencies of school teachers including would-be teachers.

However, it is indicated that the high-risk group concentrated in the low-income class is increased from 2.6% in 2009 to 3.1% in 2010. The IALs of elementary school students rises by 2.9% over last year, so it is analyzed that the addiction age group is tend to be lowered. Accordingly, this report suggests an active interest of parents and a necessity of systematic education from kindergarten stage.

Improvements presented in this report by Korean government are active curative measures such as connected implementation of counseling-treatment for high-risk people, training experts for counseling-treatment, expansion of professional counseling organizations for Internet addiction, opening of 'Internet shelter school' using vacation-weekend, provision of mobile counseling services for a neglected class etc., and a necessity of systematic researches and development of a scale according to new technologies such as mobile phones.

Suggestions of active solutions to the problem by Korean government originate from studies' results provided by numerous scholars in the meantime. Studies of scholars performed from 2004 to 2010 in Korea are divided into studies on addiction related to platforms such as Internet, mobile phones, digital games, portable game players etc. and mixed studies associated with various fields of study such as counseling, legislation etc. Especially, it have been provided the results of studies related to platforms such as mobile phones, portable game players, PMP, MP3 etc. as well as Internet addiction and systematic studies such as rehabilitation treatment program etc. from 2005.

As a result of analyzing top 10 papers with a high quotation index selected from Internet addiction related studies published from 2007 to March, 2011 in Korea through an academic database, most studies for age groups of middle, high school students are represented more than 90%. Recently, the direction of studies also tends to expand into a field of professionals.

Studies could be divided into comparison of Internet symptoms (Lee & Lee, 2004a), pattern analysis of excessive Internet users (Lee & Lee, 2004b), recognitive characteristics according to recognition levels (Chung & Kim,2008), analysis of addiction tendencies related to stress and depression (Park & Park, 2009), development of diagnostic criteria. Generally, it is used the similar measurement scales as cases of general international studies as well as Turkey. However, what's remarkable is that the government and scholars have jointly developed to use independent diagnostic sheets suitable to the Korean sentiment from 2002 (National Information Society Agency, 2002). Arguably, Even though a platform is the same, there is a slight difference in

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[1] The meaning of the high-risk group noted in this study is a case that the Internet addiction level is at a serious condition requiring counseling treatment based on the scale presented by the medical profession in Korea.

the use form etc. depending on the racial sentiment (Teo et al., 2008). Accordingly, a supplemented sheet was also developed to release in 2010 (National Information Society Agency, 2010).

RATIONALE OF THE STUDY

Internet is commonly used by young population for a variety of purposes. Particularly at universities easy access to internet, the need to study courses or contact with course instructor, desire to contact freely with the opposite sex etc. make the internet use a favorite activity amongst university students.

As relevant literature also puts forward, comprehensive research on the problematic internet usage among university students, points to the gravity of situation. Furthermore university students are more inclined towards developing excessive internet usage-related problems on accounts of various factors containing developmental problems (Ceyhan, Ceyhan and Gürcan, 2007). The tendency of college students to establish close relations with the opposite sex makes the internet usage attractive in their eyes. Besides psychological and environmental factors in university students' lives may drive them to experience internet addiction. It is inevitable that college students with low social skills end up being socially isolated. Internet is a favorite social communication tool for those students feeling lonely; however it is even harder for such students to provide control on the internet. According to Erikson (1998) the principal developmental task of college students is to establish close relations with peers in the same or opposite sex. It is only natural that college youngsters failing to develop social skills in natural social environment end up with familial and business problems in particular as they grow up. The social and academic failures individuals experience due to problematic internet usage that comes to surface during university life may constitute the base for the future loneliness and social isolation and losses in business and family relations. Certain professions, particularly teaching, require social communication skills. A teacher is a role model for students at all times. A teacher who goes through professional and social problems due to uncontrolled internet usage cannot be expected to provide a healthy data transfer to students or be a good role model. Hence further analyses are required to discuss problematic internet usage of prospective teachers studying at faculties of teaching. In that way the problems shall be detected and comprehensive studies to take relevant measurements be conducted.

Due to the restrictions on the researches about problematic internet usage and measurement tools present study employed Turkish and Korean adaptation of the Generalized Problematic Internet Use Scale 2 (GPIUS2) developed by Caplan (2010) and enabled the use of this scale for both countries. Furthermore this study bears additional significance since it analyzes the topic from a cross-cultural perspective by determining internet usage characteristics of the two different countries. As indicated by Caplan (2005) Problematic Internet Usage is a multi-dimensional syndrome. Knowing no bounds in internet usage and consequent problems may vary with respect to age groups, different professional groups, psychological state of individuals, internet usage characteristics etc. Hence it is possible to come across a variety of problematic internet usages with respect to different demographic structures in different countries and also there may be a relation between different characteristics of internet usage and problematic internet usage. Problematic Internet Usage is a prevalent problem all throughout the world. From this point of view it is a must to conduct comprehensive studies covering different cultures and detect whether the responsible causes vary with respect to cross-cultural characteristics. Such researches shall be beneficial in clarifying the factors related to problematic internet usage and also enable to detect characteristics of internet users from different countries and their cross-cultural diversities.

In the present study, Turkey and South Korea have been focused in terms of the problematic internet use and its relation to loneliness. Turkey and South Korea are two different countries in many ways, such as economic, cultural, demographic, and geographic and so on. For example in Turkey there are approximately 32,187,000 internet users which consist of 44% of the population while the number and the percentage are remarkably higher in South Korea, respectively 41,363,000 and 84%. This remarkable gap shows itself in the world ranking of these two countries in percentage of internet users in respect to population (Euromonitor International, 2011a, 2011b). South Korea is in the ninth place whereas the Turkey is the fortieth (Internet World Stats, 2011). Network Readiness Index shows that South Korea is one of the best countries (tenth rank) to use ICT effectively as a tool for the structural transformation of South Korean economy and society (World Economic Forum, 2011). Turkey is in the seventy first rank in this index among one hundred and thirty eight countries. In short, although Turkey is supposed to be an emerging market with power of its young and dynamic population it seems to have a digital gap between two countries. Based on these facts a comparative study between Turkey and South Korea about the problematic internet use would help to understand the structure of the topic deeply.

PURPOSE OF THE STUDY

The present study mainly attempts to compare the problematic internet use and its relation to loneliness among two nations' prospective teachers, Turkey and South Korea. Three major research questions were examined to realize the main goal:

1. What are the main characteristics of prospective teachers of both nations in relation to having computer facilities and purpose of using Internet?
2. Are there differences in problematic internet use by prospective teacher characteristics (such as sex, age etc.) within and between the nations?
3. Is there any relationship between problematic internet use and loneliness levels of prospective teachers of the both nations?
4.

METHOD
Participants
Participants were 595 prospective teachers from three universities, two from Turkey and one from South Korea. Marmara University Atatürk Faculty of Education is one of the well known teacher training faculties in Turkey, which is located in Istanbul. The faculty has twenty departments and its prospective teacher (student) population is over seven thousand. Maltepe University is a foundation (private) university located in Istanbul too. The third university from South Korea is Chung Ang University. The ages of the participants ranged from 17 to 37 (M: 21.07; SD: 2.16); and % 68.2 were females in total.

Table 1: Distributions of participants by universities and departments

Departments	Name of Universities			TOTAL
	Maltepe University	Marmara University	Chung Ang University	
English Language Teaching	35 (18.0)	74 (38.1)	85 (43.8)	194 (100)
Early Childhood Education	14 (50.0)	-	14 (50.0)	28 (100)
Educational Sciences	62 (42.5)	48 (32.9)	36 (24.7)	146 (100)
Home Education	-	-	28 (100)	28 (100)
Special Education	19 (100)	-	-	19 (100)
Physical Education	-	-	44 (100)	44 (100)
Primary Mathematics Education	22 (31.9)	47 (68.1)	-	69 (100)
Music Education	-	24 (100)	-	24 (100)
Turkish Language Teaching	-	43 (100)		43 (100)
TOTAL	152 (25.5)	236 (39.7)	207 (34.8)	595 (100)

Data Collection Instruments
Demographic form. A demographic form of 16 questions was used to get data about the some individual characteristics of the sample (sex, age etc.) and some preferences and states in relations to computers (having a computer, time spend using internet etc.)

Generalized Problematic Internet Use Scale 2 (GPIUS2). GPIUS2 developed by Caplan (2010) was used to collect data about the problematic aspects of Internet use of prospective teachers. GPIUS2 has five sub scales, preference for online social interaction (POSI), mood regulation, cognitive preoccupation, compulsive internet use, negative outcomes. GPIUS2 has 15 items and all the items are on a scale ranging from 1 (definitely disagree) to 8 (definitely agree). The higher points show more problematic use. As Caplan indicates (2010, p.1093) GPIUS2 scale can be used in two different ways, as a set of separate sub-scales or as an overall composite index of GPIUS. In the present study the use of composite index of the scale was preferred. The scale's internal consistency reliability was found $\alpha = .91$ by Caplan. In the present study internal consistency reliability was found $\alpha = .89$ ($\alpha = .89$ for Turkish and $\alpha = .90$ for South Korean participants) which is as high as the original value.

GPIUS2 was translated English to Turkish and Korean in both countries by the experts of language and the field who has studies in computer/internet attitudes. After the translation, the scales were applied to the bilingual (Turkish/English and Korean/English) prospective teachers for test re-tests in three weeks intervals. High correlations and no differences were found (r: .75, p<.001; [paired group] t: .34, df: 25, p>0.05 for the Turkish sample and r: .98, p<.001; [paired group] t: .15, df: 26, p>0.05 for the Korean sample) between both applications of the Turkish and Korean prospective teachers. The results showed that the language equivalence and internal consistency reliability of the scale was approved for Turkish and Korean versions of GPIUS2.

UCLA Loneliness Scale. The scale developed by Russell, Peplau, & Cutrona (1980) has 20 items on 4 point scale ranging 1 (never) to 4 (often). The reliability and validity of the scale was done by (Demir, 1989) for the Turkish sample. In the present study the internal consistency of the scale was found α= .86 (α= .84 for Turkish and South Korean participants separately).

FINDINGS
The first main research question is to investigate the main characteristics of prospective teachers of both nations in relation to having computer facilities and purpose of Internet use.

Table 2: Having own computer by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Yes, I have	323 (83.2)	183 (88.4)	506 (85.0)
No, I don't have	65 (16.8)	24 (11.6)	89 (15.0)
TOTAL	388 (100)	207 (100)	595 (100)

Table 2 shows that higher percentages of the prospective teacher have computers of their own in both nations.

Table 3: Time spend for chatting in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	36 (9.3)	95 (45.9)	131 (22.0)
Less than 1 hour	217 (55.9)	70 (33.8)	287 (48.2)
1-3 hours	114 (29.4)	33 (15.9)	147 (24.7)
4-5 hours	15 (3.9)	7 (3.4)	22 (3.7)
6-8 hours	6 (1.5)	1 (0.5)	7 (1.2)
More than 8 hours	-	1 (0.5)	1 (0.2)
TOTAL	388 (100)	207 (100)	595 (100)

Table 3 shows that 45.9% of South Korean prospective teachers reported that they never used Internet for chatting with someone else while the proportion is 9.3% for Turkish prospective teachers. It is clearly seen that the proportion of Turkish prospective teachers using internet for chatting are remarkably higher than South Korean prospective teachers.

Table 4: Time spend for meeting with new people in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	241 (62.1)	158 (76.3)	399 (67.1)
Less than 1 hour	119 (30.7)	40 (19.3)	159 (26.7)
1-3 hours	23 (5.9)	6 (2.9)	29 (4.9)
4-5 hours	4 (1.0)	2 (1.0)	6 (1.0)
6-8 hours	-	1 (0.5)	1 (0.2)
More than 8 hours	1 (0.3)	-	1 (0.2)
TOTAL	388 (100)	207 (100)	595 (100)

Table 4 shows that, parallel to the results of Table 3, higher percentage of prospective teachers (Turkey 62.1% and South Korea 76.3%) from both nations reported that they have never used internet for the purpose of meeting new people. But the distribution among both nations shows that Turkish prospective teachers tend to use internet more hours to meet with new people than South Korean prospective teachers.

Table 5: Time spend for searching for homework in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	22 (5.7)	2 (1.0)	24 (4.0)
Less than 1 hour	180 (46.4)	31 (15.0)	211 (35.5)
1-3 hours	171 (44.1)	115 (55.6)	286 (48.1)
4-5 hours	14 (3.6)	40 (19.3)	54 (9.1)
6-8 hours	1 (0.3)	9 (4.3)	10 (1.7)

	Turkey	South Korea	TOTAL
More than 8 hours	-	10 (4.8)	10 (1.7)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 5, majority of Turkish prospective teachers spend less than one hour for searching for their homework while majority of South Korean prospective teachers spend 1-3 hours period. Based on the distribution of the data it is clearly said that South Korean prospective teachers seem to spend more time for searching for their homework than Turkish prospective teachers.

Table 6: Time spend for surfing the Internet for new information in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	18 (4.6)	2 (1.0)	20 (3.4)
Less than 1 hour	193 (49.7)	89 (43.0)	282 (47.4)
1-3 hours	154 (39.7)	87 (42.0)	241 (40.5)
4-5 hours	19 (4.9)	16 (7.7)	35 (5.9)
6-8 hours	4 (1.0)	7 (3.4)	11 (1.8)
More than 8 hours	-	6 (2.9)	6 (1.0)
TOTAL	388 (100)	207 (100)	595 (100)

Table 6 shows that very few number of prospective teachers do not use internet for searching new information. The majority of the prospective teachers of both nations spend up to three hours of time for seeking for new information.

Table 7: Time spend for surfing the Internet for reading news in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	58 (14.9)	13 (6.3)	71 (11.9)
Less than 1 hour	232 (59.8)	102 (49.3)	334 (56.1)
1-3 hours	85 (21.9)	72 (34.8)	157 (26.4)
4-5 hours	12 (3.1)	11 (5.3)	23 (3.9)
6-8 hours	1 (0.3)	6 (2.9)	7 (1.2)
More than 8 hours	-	3 (1.4)	3 (0.5)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 7, majority of students in each nation spend less than one hour to read news.

Table 8: Time spend for playing gamble in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	340 (87.6)	199 (96.1)	539 (90.6)
Less than 1 hour	29 (7.5)	5 (2.4)	34 (5.7)
1-3 hours	15 (3.9)	2 (1.0)	17 (2.9)
4-5 hours	3 (0.8)	-	3 (0.5)
6-8 hours	1 (0.3)	-	1 (0.2)
More than 8 hours	-	1 (0.5)	1 (0.2)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 8, playing gamble is not the focus of interest for the majority of prospective teachers of both nations. On the other hand Turkish prospective teachers seem to spend slightly more time playing gamble compare to South Korean prospective teachers.

Table 9: Time spend for searching porno sites in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	344 (88.7)	190 (91.8)	534 (89.7)
Less than 1 hour	36 (9.3)	13 (6.3)	49 (8.2)
1-3 hours	3 (0.8)	4 (1.9)	7 (1.2)
4-5 hours	-	-	-

6-8 hours	1 (0.3)	-	1 (0.2)
More than 8 hours	4 (1.0)	-	4 (0.7)
TOTAL	388 (100)	207 (100)	595 (100)

Table 9 shows that, as in Table 8 for gambling, searching porno sites reported no focus of interest majority of prospective teachers. The rest of the distributions seem to be in balance for both nations.

Table 10: Time spend for playing interaction games in a day by nation

CHATTING	Turkey	South Korea	TOTAL
Never	274 (70.6)	149 (72.0)	423 (71.1)
Less than 1 hour	83 (21.4)	35 (16.9)	118 (19.8)
1-3 hours	24 (6.2)	18 (8.7)	42 (7.1)
4-5 hours	5 (1.3)	2 (1.0)	7 (1.2)
6-8 hours	-	2 (1.0)	2 (0.3)
More than 8 hours	2 (0.5)	1 (0.5)	3 (0.5)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 10, approximately 30% of prospective teachers in each nation spend an amount of time to play interaction games. The majority of the student teachers among the players reported that they spend less than one hour for playing interaction games.

Table 11: Time spend for downloading music in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	101 (26.0)	67 (32.4)	168 (28.2)
Less than 1 hour	183 (47.2)	107 (51.7)	290 (48.7)
1-3 hours	89 (22.9)	24 (11.6)	113 (19.0)
4-5 hours	11 (2.8)	4 (1.9)	15 (2.5)
6-8 hours	2 (0.5)	-	2 (0.3)
More than 8 hours	2 (0.5)	5 (2.4)	7 (1.2)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 11, half of the prospective teachers of each nation spend less than one hour on internet for downloading music. Turkish prospective teachers reported that they slightly more time for downloading music than South Korean counterparts.

Table 12: Time spend for downloading photos in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	121 (31.2)	61 (29.5)	182 (30.6)
Less than 1 hour	207 (53.4)	114 (55.1)	321 (53.9)
1-3 hours	54 (13.9)	20 (9.7)	74 (12.4)
4-5 hours	3 (0.8)	7 (3.4)	10 (1.7)
6-8 hours	2 (0.5)	1 (0.5)	3 (0.5)
More than 8 hours	1 (0.3)	4 (1.9)	5 (0.8)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 12, majority of prospective teachers of both nations reported that they spend less than one hour for downloading photos. The rest of the distribution seems to be balanced for Turkish and South Korean prospective teachers.

Table 13: Time spend for using e-mail in a day by nation

	Turkey	South Korea	TOTAL
	f (%)	f (%)	f (%)
Never	24 (6.2)	16 (7.7)	40 (6.7)
Less than 1 hour	259 (66.8)	148 (71.5)	407 (68.4)
1-3 hours	86 (22.2)	23 (11.1)	109 (18.3)
4-5 hours	14 (3.6)	13 (6.3)	27 (4.5)
6-8 hours	3 (0.8)	4 (1.9)	7 (1.2)

More than 8 hours	2 (0.5)	3 (1.4)	5 (0.8)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 13, very low percentages of prospective teachers in each nation seem not to spend time using e-mail correspondence. Majority of prospective teachers reported that they spend e-mail less than one hour a day.

Table 14: Time spend for downloading films in a day by nation

	Turkey	**South Korea**	**TOTAL**
	f (%)	f (%)	f (%)
Never	174 (44.8)	42 (20.3)	216 (36.3)
Less than 1 hour	118 (30.4)	91 (44.0)	209 (35.1)
1-3 hours	66 (17.0)	61 (29.5)	127 (21.3)
4-5 hours	22 (5.7)	9 (4.3)	31 (5.2)
6-8 hours	3 (0.8)	3 (1.4)	6 (1.0)
More than 8 hours	5 (1.3)	1 (0.5)	6 (1.0)
TOTAL	388 (100)	207 (100)	595 (100)

Table 14 shows that 44.8% of Turkish prospective teachers reported that they have never spent time for downloading films compare to 20.3% of South Korean prospective teachers. South Korean prospective teachers seem to spend more time in internet to download films than Turkish prospective teachers.

Table 15: Time spend for producing/developing web sites/blogs in a day by nation

	Turkey	**South Korea**	**TOTAL**
	f (%)	f (%)	f (%)
Never	334 (86.1)	90 (43.5)	424 (71.3)
Less than 1 hour	38 (9.8)	87 (42.0)	125 (21.0)
1-3 hours	10 (2.6)	22 (10.6)	32 (5.4)
4-5 hours	6 (1.5)	5 (2.4)	11 (1.8)
6-8 hours	-	-	-
More than 8 hours	-	3 (1.4)	3 (0.5)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 15, majority of Turkish prospective teachers (86.1%) are not interested in spending time for producing/developing web sites or blogs. On the other hand more than half of the South Korean participants reported that they spend some amount of time, mostly less than one hour, for web site or blog production/development.

Table 16: Time spend for shopping on line in a day by nation

	Turkey	**South Korea**	**TOTAL**
	f (%)	f (%)	f (%)
Never	286 (73.7)	32 (15.5)	318 (53.4)
Less than 1 hour	82 (21.1)	119 (57.5)	201 (33.8)
1-3 hours	16 (4.1)	41 (19.8)	57 (9.6)
4-5 hours	4 (1.0)	9 (4.3)	13 (2.2)
6-8 hours	-	2 (1.0)	2 (0.3)
More than 8 hours	-	4 (1.9)	4 (0.7)
TOTAL	388 (100)	207 (100)	595 (100)

As seen in Table 16, 73.7% of Turkish prospective teachers reported that they don't spend anytime for shopping online while only 15.5% of South Korean prospective teachers reported in the same way. The data clearly shows that South Korean prospective teachers spend more time than Turkish prospective teachers.
Second main research question is to find out the differences of problematic internet use of prospective teachers by their demographic characteristics. First of all, the data obtained from two main scales of the research, GPIUS2 and UCLA, were analyzed.

Table 17: Problematic Internet Use By Nations

	n	**Mean**	**sd**	**df**	**t**	**p**

	n	Mean	sd	df	t	p
Turkey	388	39.56	19.36	593	0.33	n.s.
South Korea	207	40.08	16.09			

As seen in Table 17, no differences were found between the problematic Internet use of Turkish and Korean prospective teachers. The means also shows that problematic internet use of the participants is below average which means the Internet is not a problematic medium for both nations' prospective teachers.

Table 18: Loneliness by Nations

	n	Mean	sd	df	t	p
Turkey	388	31.76	9.33	593	11.80	0.000
South Korea	207	40.66	7.55			

Although loneliness, alone, is not the major investigation of this study, results of the Table 19 shows us that there is a significant difference between Turkish and Korean prospective teachers. South Korean prospective teachers were found to be in higher levels of loneliness than Turkish counterparts.

Table 19: Correlation between problematic internet use and age

Problematic Internet Use vs. age	n	r	p
Turkey	388	- 0.12	0.02
South Korea	207	- 0.09	n.s.

As seen in Table 19 the results indicate a negative and low correlation between problematic Internet use and age only in Turkish prospective teachers. The result means that as the age grows up the level of problematic Internet use drops down. It can be explained by being mature as the years pass in relation to proper use of Internet. But on the other side no relationship found for the South Korean prospective teachers. This can be, probably, explained by the age difference of both groups. South Korean participants' age has been found statistically higher (Mean age/Turkish: 20.51, Mean age/S. Korean: 22.13, t: 9.28, p<0.001) than Turkish prospective teachers. The way of this difference would be an explanation of the contradictory result.

Table 20: Problematic Internet Use By Sex

	Sex	n	Mean	sd	df	t	p
Turkey	Male	120	43.70	20.31	386	2.84	0.005
	Female	268	37.72	18.67			
South Korea	Male	69	41.75	17.53	205	1.05	n.s.
	Female	138	39.25	15.33			

Table 20 shows that there is a significant difference between male and females in relation to problematic internet use only among Turkish prospective teachers. Male Turkish prospective teachers found to have more problematic use of internet than female counterparts.

Table 21: Problematic Internet Use by Computer Sufficiency

	Sufficiency	n	Mean	sd	F	p
Turkey	Never	8	40.38	24.89	2.09	n.s
	Few	159	36.70	17.72		
	Quite	196	41.35	19.79		
	Completely	25	43.56	22.84		
	TOTAL	388	39.57	19.37		
South Korea	Never	4	36.50	4.65	0.21	n.s
	Few	58	39.40	16.10		
	Quite	121	40.17	15.99		
	Completely	25	41.96	18.30		
	TOTAL	207	40.09	16.10		

Table 21 shows that there is no difference between problematic internet use in relation to computer sufficiency levels of prospective teachers in both nations.

Table 22: Problematic Internet Use by Internet Using Place

	Place	n	Mean	sd	F	p	Difference
Turkey	Home	280	41.03	19.89	3.23	0.02	Home> Internet café Home> Library
	Internet cafe	23	31.74	14.53			
	Library	20	30.85	14.24			
	Other	65	38.72	18.86			
	TOTAL	388	39.57	19.37			
South Korea	Home	157	38.65	15.96	1.96	n.s	
	Internet cafe	3	37.67	19.66			
	Library	27	45.37	17.64			
	Other	20	44.60	12.98			
	TOTAL	207	40.09	16.10			

As seen in Table 22, ANOVA results put differences between problematic internet uses in relation to mostly preferred internet using place among Turkish prospective teachers. The post-hoc LSD analysis revealed that home users seem to have higher problematic levels compared to internet café and library users in Turkey. No differences have been found in South Korean participants.

Table 23: Problematic Internet Use by Time Spend on Internet in a Day

	Time	n	Mean	sd	F	p	Difference
Turkey	Less than 1 hour	141	30.46	13.21	26.56	0.000	Less than 1 hour<1-4 hours
	1-4 hours	213	42.70	18.58			Less than 1 hour<5-8 hours
	5-8 hours	26	57.96	24.95			Less than 1 hour<+8 hours
	+ 8 hours	8	56.75	31.73			1-4 hours<5-8 hours
	TOTAL	388	39.56	19.37			1-4 hours<+8 hours
South Korea	Less than 1 hour	23	26.78	11.73	7.16	0.000	Less than 1 hour<1-4 hours
	1-4 hours	134	40.82	15.35			Less than 1 hour<5-8 hours
	5-8 hours	36	43.36	15.35			Less than 1 hour<+8 hours
	+ 8 hours	14	46.50	20.86			
	TOTAL	207	40.09	16.10			

As seen in Table 23 significant differences found between problematic internet uses of prospective teachers in relation to time they spend on Internet in a day. The results show that heavy users have more problematic in Internet use in both Turkish and South Korean prospective teachers. If the analyses have been investigated in details, South Korean prospective teachers who spend less than one hour on Internet in a day have less problematic in internet use than the other heavy users. On the other hand, in Turkish prospective teachers the differences were found between not only among less than one hour and the other heavy users but also 1-4 hours users and the others.

Table 24: Problematic Internet Use By Number of Years Using Internet

	Time	n	Mean	sd	F	p
Turkey	Less than 1 year	9	28.67	10.94	0.92	n.s.
	1-3 years	53	39.26	20.43		
	4-5 years	124	38.98	17.83		
	6-8 years	132	40.98	20.49		
	+8 years	70	39.59	19.78		
	TOTAL	388	39.56	19.37		
South Korea	Less than 1 year	2	25.00	2.83	0.89	n.s.
	1-3 years	6	33.33	14.51		
	4-5 years	17	42.94	20.39		
	6-8 years	39	41.28	13.51		
	+8 years	143	39.92	16.32		
	TOTAL	207	40.09	16.10		

As seen in Table 24 no significant differences found between problematic internet use in relation to the number of years using Internet of prospective teachers in both nations.

Third main research question is to investigate the relationship between problematic internet use and loneliness levels of prospective teachers.

Table 25: Correlation between problematic internet use and loneliness levels of prospective teachers by nations

Problematic Internet Use vs. loneliness	n	r	p
Turkey	388	0.11	0.02
South Korea	207	0.29	0.00

Table 25 shows that there are positive but low correlations ($p < 0.05$) between problematic Internet use and loneliness levels of prospective teachers of both nations.

RESULTS AND DISCUSSION

First, prospective teachers were examined by computer ownership and the purpose of Internet use. The findings show that South Korean prospective teachers have slightly higher percentages (88.4% - 83.2%) of having their own computers. Although this slight difference in favor of South Korean prospective teachers it can easily seen that majority of prospective teachers have computer in both nations.

The purpose of Internet use of Turkish and South Korean prospective teachers shows some differences in many cases. The most remarkable cases are the ones which are related with social interactions. Turkish prospective teachers reported that they spend more time for chatting and meeting with new people than South Korean counterparts. The result shows that 45.9% of South Korean prospective teachers reported that they never used Internet for chatting with someone else while the proportion is 9.3% for Turkish prospective teachers. It is clearly seen that the proportion of Turkish prospective teachers using internet for chatting are remarkably higher than South Korean prospective teachers. Another difference can be caught in online shopping. Higher percentages of Turkish prospective teachers (73.7%) reported that they have never used internet as an online shopping medium while 84.5% of Korean prospective teachers use some amount of time. Playing gambling and searching porno sites have been reported very low in percentages for both nations' prospective teachers.

The second main research question is to investigate the possible differences on problematic internet use of Turkish and South Korean prospective teachers. No significant differences were found between the problematic internet use of Turkish and South Korean prospective teachers. The level of problematic internet use was also found below average. Studies conducted in order to examine problematic usage of the internet do not diagnose addiction, but only focus on whether an internet usage level, which can cause problems, exist or not. Therefore, the fact that the level of problematic internet use was found below average indicates that there is no tendency, in any of the countries, towards a level of internet use that can cause problem. Also in another study where the problematic internet usage levels of the prospective teachers in Turkey were examined, this tendency has been found out to be below average (Tutgun and Deniz, 2010). According to 'Actual condition survey on Internet addiction of Korean in 2010', the internet addiction levels (IALs) of the entire people has been gradually decreasing from 2004 when the survey was begun. The IALs of the entire people is indicated as the decrease from 8.5% in 2009 to 8.0% in 2010. The IALs of youths is also lowered from 14.4% in 2007 to 12.8% in 2009, 12.4% in 2010. The report says that this is a result from systematic and scientific actions of Korean government and schoolteachers (Ministry of Public Administration and Security,2010).

Problematic internet use was positively and significantly ($p < 0.05$) related to loneliness. But the levels of the correlations were low. Although it is not the main concern of the present research the loneliness levels of both nations' prospective teachers have been found statistically different. South Korean prospective teachers' loneliness levels were found higher than the Turkish counterparts. It is hard to guess the reasons of this difference but the low percentages of using internet for chatting and meeting new people by South Korean prospective teachers compare to Turkish counterpart should be taken into consideration to make an evaluation of this case.

Male Turkish prospective teachers have significantly higher scores than females while there is no difference in South Korean side by sex. This finding supports other studies made on the differentiation by gender of the problematic internet use in Turkey (Odaci and Kalkan, 2010; Tutgun, 2009; Tutgun and Deniz, 2010). In their studies Tutgun and Deniz (2010) have suggested that male and female students to be provided with the same internet usage facilities in various environments where internet is used. On the other hand, it can be considered

that in internet usage environments in Korea, internet usage facilities are positively provided for the both genders. There are studies that emphasize on the problematic internet uses of the males also in other countries than Turkey (Anderson, 2001; Kubey, Lavin and Barrows, 2001; Morahan-Martin and Schumacher, 2000). In Morahan-Martin and Schumacher (2000)'s research as well, similar findings have been obtained. Here too the individuals diagnosed with pathologic internet use are mostly composed of men and these people use internet to make new friends, receive emotional support, play interactive games and find social comfort. This deduction is also a one-to-one reference to the finding of present research for Turkish side. Turkish prospective teachers reported that they spend more time for chatting and meeting with new people than South Korean counterparts. The fact that male prospective teachers in Turkey tend more to use internet at problematic levels in comparison with females may result due to the excessive times they spent in internet with the purposes of chatting and meeting with new people.

There is a significant difference (p<0.000) between hours spend online in a day and problematic internet use in both nations. Due to the excessive time spent by prospective teachers in both nations on the net, we can reasonably assume that the daily time spent on the net is one of the greatest risk factors in this group and this deduction is parallel to other researches that analyzed the relation between internet use lengths and negative results associated with excessive internet use (Anderson, 2001; Caplan, 2005; Davis, 2001; Griffiths , 2000; Rotunda, Kass et al., 2003; Young, 1999).

According to the statistics from the Korea Communications Commission (2011), the ratio using Internet within recent a month was the average 1.9 hours a day in 2007's statistics and 2.3 hours in 2010, which is analyzed as an increase of 0.4 hour. Especially, as of 2010, average Internet use period of Internet users over age 3 of the Korean is 85.2 months, and the case using Internet for more than 7 years is also founded as 55.1%. Examining the changes of average usage for each year, the case using 'more than once a day' was 77.2%, 'more than once a week' was 21.0% in 2007. Average weekly Internet usage was 13.7 hours, and the case using for more than average 14 hours a week (average 2 hours a day) was also founded as 50.2%. In the 2010's survey, the case using Internet 'more than once a day' is 78.4%, 'more than once a week' is 21.8%, and the average weekly Internet usage is founded as 13.9 hours, which shows it gradually increases.

As stated by Caplan (2005) individuals who lack skills to show themselves prefer online communication instead of face-to-face interaction and consequently online social interaction drives these individuals to spend longer periods of time on internet. On the other hand the social environment established on internet may drive people to use internet continuously and this situation can go so far as to cause some psychological disorders. In Griffiths' (2000) research, it has been underlined that excessive internet users do so in order to overcome or inactivate their insufficiencies (social defencelessness in real life, low self-esteem, physical incompetence). Accordingly these particular individuals go through serious problems due to excessive usage of internet.

On the other hand, in this study it has been found out that, unlike South Korean prospective teachers, the prospective teachers in Turkey tend to use the internet for the purpose of establishing social interaction and meeting and chatting with new people. This may cause the Turkish prospective teachers to spend more time on a daily basis in the internet and consequently use internet in a problematic way. As for the prospective teachers of South Korea, in comparison with their Turkish counterparts, spend more time for researching and shopping on the internet and spend lesser time for chatting and meeting with new people.

Yet, the finding indicating that the level of loneliness of the Korean prospective teachers differentiate in comparison with the Turkish prospective teachers suggest that they may be spending more time on the internet with the purpose of social interaction, in other words developing websites and blogs. Internet usage for producing and developing websites and blogs has been found out to be higher in South Korea in comparison with the Turkish prospective teachers. According to this result, majority of Turkish prospective teachers (86.1%) are not interested in spending time for producing/developing web sites or blogs. On the other hand more than half of the South Korean participants reported that they spend some amount of time, mostly less than one hour, for web site or blog production/development. This finding suggests that South Korean prospective teachers may have social interactions through blogging. This point should be assessed with an in-depth research to be conducted in South Korea, through personal interviews.

Other findings show that no differences were found between number of years using internet; computer sufficiency and problematic internet use.

As the last word, when all the findings evaluated altogether, it would be clearly said that the problematic internet use of Turkish and South Korean prospective teachers seem alike in terms of level and related factors although two countries have been reported (World Economic Forum, 2011) in different technological (network) readiness levels.

CONCLUSIONS AND RECOMMENDATIONS

As indicated by present research, problematic internet usage tendency of prospective teachers is clearly a warning for the potential negativities they can go through in future. As a conclusion it is urgent that in Education Faculties where prospective teachers are trained, immediate precautions be taken. Driven by this deduction, in this research several suggestions are stated.

It is inevitable for the university students, who cannot develop their social skills in their natural social environment, to face serious problems in their future family and business environments. Particularly in the occupational groups where the effective utilization of social interaction skills is required, such as teaching, social interaction has a vital importance. This is because of the fact that, a teacher who experiences problems with its social and occupational environment due to its excessive internet use, will not be able to transfer knowledge to its students in a healthy way and will not present a good model. In present research, it is clear that the tendency of prospective teachers to problematic internet usage because of their loneliness is an indicator of possible problems they may experience in the future. Therefore, studies can be conducted to measure the level of problematic internet usage by prospective teachers periodically.

Besides, studies on how to control problematic internet usage by prospective teachers can also be conducted. In order to prevent excessive internet usage by university students due to the lack of the ability to adapt to new social environments and establishing new friendships, the academic staff can support especially freshmen with group projects and cooperative study techniques which provide them new opportunities to socialize.

It is natural to have some limitations of conducting and interpreting this research as it is the first comparative study in its field between Turkey and South Korea. Further researches should be done to understand the state and effects of information communication technologies on different samples and by using different research methodologies, such as qualitative ones.

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