Online Social Network Sites for K-12 Students: Socialization or Loneliness

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Abstract

Social Network Sites (SNSs) are online environments used by many of internet users from different ages for years. These environments, which support inter-individual communication with multimedia sharing and multiuser online games, are updated and shaped in accordance with the needs of individuals who have to cope with the tensions of daily life. The main purpose of a SNS is to provide an online social sharing and communication platform, however, it is still ambiguous whether there is a significant correlation between the tendency to use social networks and loneliness. Loneliness has long been associated with excessive use of the Internet, however, the use of SNSs has caused internet to gain a new role related to social interaction. In this study, SNS usage preferences of 170 high school students were surveyed and some relations between these preferences and students' loneliness level were analyzed. Students' loneliness level was measured by means of UCLA loneliness scale developed by Russell, Peplau and Cutrona (1980). The results revealed that there was a negative correlation between the number of user's friends on SNS and the UCLA loneliness scale points.

Keywords: Social network sites (SNSs), Social interaction, online learning and interaction.

Introduction

Loneliness, emotional or social isolation (Weiss, 1975), emerge from personal experiences during the life. These experiences reveal themselves not only physically but also emotionally. An individual can experience loneliness even if in a social group. Peplau and Perlman (1979), defined loneliness as a psychological condition that develops from the perceived discrepancy between the relationships one wishes to have in number and quality and those one actually has. For some, loneliness occurs when they are by themselves and want to be in an social group; for others, it occurs when they are part of a social group, but do not feel connected to the group (Chipuer, 2004). Problems in interindividual communication constitute the basic reason for loneliness. Interindividual communication involves social relationships such as between parent-child, teacher-student, supervisor-employee, therapist-client, romantic partners or business partners (Fogel, 2009). Henson, Dybvig-Pavelko and Canary (2004), stated that there is a close relationship between the feeling of loneliness and interindividual communication patterns.

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This perceived relationship between loneliness and interindividual communication has resulted in detailed research about the effects of the internet, which is a world wide communication environment, on social relationships and loneliness (Amichai-Hamburger & Ben-Artzi, 2003; Fokkema & Knipscheer, 2007; Leung, 2001; Morahan-Martin& Schumaher, 2003; Stephanikova, Nie & He, 2010; Sum, Mathews, Hughes, & Campbell, 2008; Whitty & McLaughlin, 2007; Wang & Sun, 2009). As a sample, Morahan-Martin and Schumacher (2003), studied differences between lonely and not-lonely individuals in patterns of Internet use, and found that the lonely individuals used the Internet and e-mail more and were more likely to use the Internet for emotional support than others.

Social Network Sites (SNSs) are online communities of internet users. Three of the world's most popular online sites are social-media related websites and internet users spent over 110 billion minutes on social networks and blog sites in 2010; this equates to 22 percent of all time online or one in every four and half minutes (Nielsen, 2011). The term ''Social Networking'' refers to the formation of a community on the Internet, that facilitates the users to interact or share views for a common purpose (Mahajan, 2009). In this context, SNSs are defined as web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd & Allison, 2007). The birth of the SNSs can be traced to e-mail servers and online bulletin boards (Shelton, 2009). SNSs, such as Facebook, MySpace, Friendster, Live Journal, and   LinkedIn, are member-based Internet communities that allow users to post profile information, such as a username and photograph, and to communicate with others   in varied ways such as sending public or private online messages or sharing photos online (Pempek, Yermolayeva & Calvert, 2009).

These online communities are so popular among the users that there are more than 200 active SNSs in different languages all over the world. In recent years, online habits of the users related to using online communication tools tend to use SNSs. All students today are increasingly expected to develop technological fluency, digital citizenship, and other twenty-first century competencies despite wide variability in the quality of learning opportunities schools provide. Social network sites (SNSs) available via the internet may provide promising contexts for learning to supplement school-based experiences (Greenhow & Robelia, 2009). Especially among the teenagers, while the usage of the online communication tools such as e-mail has decreased, usage of SNSs has increased (Lenhart, Madden, Smith & McGill, 2007). Ellison, Steinfeld and Lampe (2007), stated that these sites could be oriented towards work-related contexts (e.g., LinkedIn.com), romantic relationship initiation (the original goal of Friendster.com), connecting those with shared interests such as music or politics (e.g., MySpace.com), or the college student population (the original incarnation of Facebook.com).

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Facebook, one of the biggest SNSs, has more than 400 million active users (Facebook, 2010). Facebook was developed as a support tool to enable users to communicate with their friend groups (West, Lewis, & Currie, 2009). Tredinnick (2006) stated that SNSs grew thanks to active contributors and files shared by registered users. Online social networks such as Facebook, Friendster and Myspace provides an environment that gives users an opportunity to create their visual identity and share it with their family or friends (Mazer, Murphy, & Simonds, 2009).   SNSs such as Facebook are one of the latest examples of communications technologies that have been widely-adopted by students (Robyler, et al., 2010). SNSs, with rich contents continually added by millions of users, have more attraction and effect our natural social life day by day much more than ever (Nielsen, 2011). What distinguishes SNSs from other forms of virtual communities is that they allow users to articulate and make visible their social networks. The process is similar to allowing others to view your address book and interact with it online. In this way, one's social connections potentially become the connections of one's 'friends' (Greenhow & Robelia, 2009).   As social networking sites become more ingrained in daily life worldwide, they will soon have a more diverse audience in terms of age, culture and socio-economic status (Waters, Burnett, Lamm & Lucas, 2009). In view of the fact that SNSs have a huge user interest, it should be investigated whether the SNSs have a social role like face-to-face social interaction environments. As a sample, Donath and Boyd (2004), emphasized that online social sites were services that create weak bonds between people and do not contribute to increase strong social ties. Social relationships are very important for people's (perceived) quality of life and people's well-being.

Especially, for teenagers, friends constitute a big part of their life (West et al., 2009). Huang, Basu and Hsu (2010) state that, young individuals are known to be some of the most likely to actively participate on some SNSs (e.g., Facebook's initial focus on college students and then high school students have left out older people by design), suggesting that concentrating on adolescents (12–18 years olds) and young adults (19–40 years olds) is especially important if researchers are to gain a better understanding of how such sites are being incorporated into people's lives. Moreover, because young adults are much more "wired" than their older counterparts (Fox, 2004; Madden, 2006), research studies focusing on this population could be beneficial, especially with the goal of understanding fundamental motivations of SNSs participation. The environment for communicating with friends and having new friends is very attractive for this age group. In this context, SNSs support the teenagers in their communication needs and social relationships (Livingstone & Brake, 2010). Pfeil, Arjan and Zaphiris, (2009), investigated age differences in the use of the MySpace, social networking website, and potential differences in social capital among older people (users over 60 years of age) compared to teenagers (users between 13 and 19 years of age). Their findings show that teenagers have larger networks of friends compared to older users of MySpace. Moreover, they found that the majority of teenage users' friends are in their own age range (age ± 2 years), whilst older people's networks of friends

tend to have a more diverse age distribution. In this context, these ranges of ages are needed for research about SNSs usage preferences and relationships with individual loneliness.

Due to this literature, the relationship between loneliness and the use of SNSs is expected to be a big study area of online communication studies. However, current literature reveals a gap in the scientific knowledge in respect of relationship between loneliness and the use of SNSs. In this study, SNS usage preferences of teenagers were surveyed and some relations between these preferences and teenagers' loneliness level were analyzed. Teenagers' loneliness level was measured by means of *UCLA Loneliness Scale.*

Methodology

Participants

Participants of this study were 182 high school students (199 males and 16 females), who attended Gungoren vocational high school in Istanbul in December 2009. As shown in Table 1, a little over ninety three percent (93,41% or 170) of the participants were registered users of an online SNS. The results of whether students were registered user of a SNS are presented in Table 1.

Table 1: Distribution of Students According to SNS Registration Status

Are you a registered user of a SNS?	f	%
Yes	170	93.41%
No	12	6.59%
Total	182	100%

 The data obtained from these 170 registered users were analyzed and the results are discussed below.

Measures

Information about the students' SNS preferences was collected by means of a survey developed by the researcher. The survey contains 15 questions such as "How many registered SNS friends do you have?" All survey questions were prepared for the purpose of determining the students' SNS usage preferences. In order to develop the survey, the opinions of three experts were gathered and corrections were the UCLA Scale was used to measure the loneliness levels of students. Participants rated the extent to which 20 statements describe them on a 4 point scale from "not at all (1)" to "very much (4)" . The UCLA developed by Russell, Peplau, and Ferguson (1978) and was revised by Russell, Peplau, and

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Cutrona (1980) and contains 10 positive and 10 negative statements about one's social relations. This scale was adapted to Turkish students by Demir (1989). The reliability coefficient of the Turkish equivalent of UCLA was calculated as .94 by the Retest Method and the Cronbach's Alpha Reliability Coefficient of it was found to be .96. The parallel form validity of the UCLA was tested using the *Beck Depression Inventory* and the correlation coefficient was found to be .77 (Demir, 1989).

Data Analysis Procedures

Results obtained from the survey were tabulated into frequency and percentage tables. The data collected through the UCLA scale were analyzed by ANOVA with Scheffe post hoc analysis.

Results

In this section, findings obtained from the survey and UCLA scale are presented under 2 two different headings, students' SNS preferences and correlation between the loneliness points and SNS preferences of students
Students' SNS Preferences

The first stage of the analysis is concerned with the general SNS preferences of students. In this stage "Yes-No" Questions were used for obtaining data. These questions revealed very conclusive findings about the SNS usage characteristics of participants. The questions were answered by 170 students registered to a SNS and responses are summarized in Table 2.

Table 2: Results of "Yes-No" Questions

Question	Yes		No	
	f	*%*	*f*	*%*
Do you think that the time passes using a SNS is a waste of time?	94	55%	76	45%
Do you think about canceling your SNS registration in the future?	22	13%	148	87%
Is the number of registered SNS friends important for you?	51	30%	119	70%
Are you registered to a social group on the SNS?	155	91%	15	9%
Have you ever created a social group on the SNS?	20	12%	150	88%

As shown in Table 2, the students generally (76 students) were not of the opinion that the use of the SNS is a waste of time and also most of them (148) do not consider cancelling their SNS registration in the future. Additionally, many of the students (119) think that the number of registered SNS friends is of no importance for them. A great many students (155) are registered to a social group, however, only 20 of them have created a social group on the SNS.

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The students' main purpose of using the SNS was queried and the answers to this multiple selection question are summarized on Figure 1.
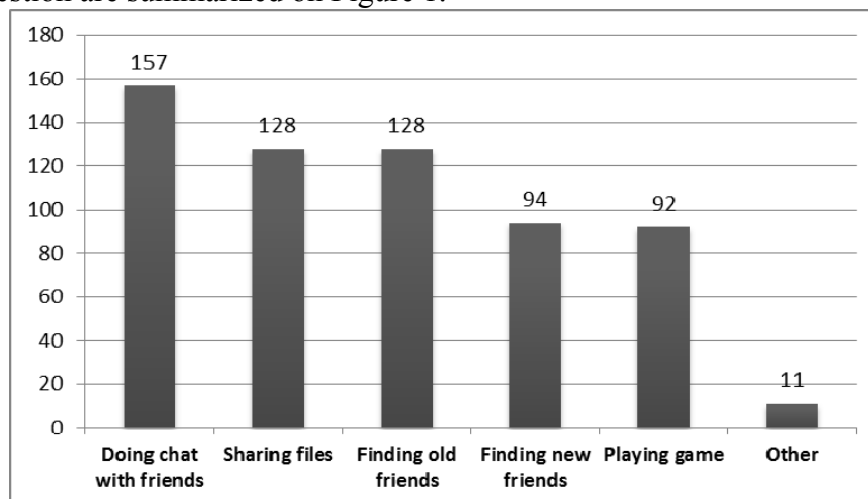

Figure 1: The Students' Purposes of Using SNS.

As shown in Figure 1, most of the students (157) use the SNS to chat with their friends, in other words, it can be said that the communication feature of the SNS is very important for this age group. The students were questioned about the period of their SNS membership and the answers were presented in Table 3.

Table 3: The distribution of students according to the duration of being a member of social networking website

How long have you been the member of the SNS?	f	%
Less than 1 year	49	26.92%
1-3 years	97	53.30%
3-5 years	18	9.89%
5-7 years	3	1.65%
More than 7 years	3	1.65%

As it can be seen in Table 3, the highest ratio among the participants about the duration of being a member of a social networking website of the students who were members of any social networking website was "1-3 Years" choice with a percentage of 53.30%. This was followed by "Less than 1 Year" choice with a percentage of 26.92%. The distributions related to the frequencies of logging in a social networking website of the students who were members of any social networking websites were presented in Table 4.

**Table 4: The distributions of the students according to the frequencies of logging
in social networking websites**

How often do you log in to the SNS?	f	%
Daily	68	37.36%
Every other day	62	34.07%
Once a week	31	17.03%
Rarely	9	4.95%

Table 4 reports that 37.36% of the students (68 people) logged in a social networking website
every day, 34.07% of them (62 people) once in two days. The students who were members of
social networking websites were asked how long they stayed when they were connected and
the distributions related to the obtained data were presented in Table 5.

**Table 5: The distributions of the students according to the duration of connecting
to the networking websites**

How long do you stay when you connect to the SNS?	f	%
Less than 1 hour	69	37.91%
1-2 hours	43	23.63%
2-3 hours	28	15.38%
More than 3 hours	30	16.48%

As seen in Table 1, 37.91% of the students who were members of social networking websites
spent less than 1 hour and 23.63% of them spent 1-2 hours. The numbers of the registered
friends that were in social networking website of the students who were using social
networking website were presented in Table 6.

**Table 6: The distribution of students according to the number of the registered friends
on the SNS and SNS friends they meet in daily life**

	How many registered friends have you got on the SNS?		How many of your friends on SNSs you meet in daily life?	
	f	%	f	%
1-19	8	4.71%	69	40.59%
20-49	16	9.41%	38	22.35%
50-99	31	18.24%	38	22.35%
100-149	41	24.12%	13	7.65%
150-199	24	14.12%	8	4.71%
More than 200	50	29.41%	4	2.35%

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As it can be seen in Table 6, 29.41% of the students who were using the social networking website (50 people) had more than 200 friends, 14.12% of them (24 people) had friends between 150 and 199, 24.12% of them (41 people) had friends between 100 and 149. Only 32.35% of the students (55 people) who were using the social networking website had less than 100 friends. Beside that, 40.59% of the students (69 people) who were using the social networking website had friends between 1 and 19, 22.35% of them (38 people) had friends between 150 and 199, 24.12% of them (41 people) had friends between 100 and 149. Only 32.35% of the students (55 people) who were using the social networking website stated that they had less than 100 friends.

Correlation between Loneliness and SNS Preferences of Students

The following three questions were taken into account while examining the relationship between the practice of students' using social networking websites and their UCLA scores:

a. The number of friends accepted in the social networking website

b. For how long they were a member of the social networking website

c. The average duration they stayed when they were connected
    Firstly, the differentiation of UCLA scores of the students according to the number of their registered friends in SNS was tested by means of ANOVA and the findings are presented in Table 7.

**Table 7: The ANOVA results of the differentiation of UCLA Loneliness scale scores
of the participants according to the number of registered friends in SNS**

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	1067.685	4	266.921	3.675	.007
Within groups	11985.168	165	72.637		
Total	13052.853	169			

Table 7 illustrates that the UCLA scores of the participants were significantly different according to the number of their friends in SNS (p<.05;F:3.67). Scheffe test was conducted to determine the reason for this significant differentiation and the results were shown in Table 8.

When Table 8 is reviewed, it can be seen that the significant differentiation among the participants in terms of the number of friends was because of the difference ($p<.05$) between the groups of whose friends were between 1 and 49 and over 200. The relationship between the duration which students were members and their UCLA scores was investigated and the results of the analysis were presented in Table 9.

Table 8: Scheffe test results of the differentiation of UCLA Loneliness scale scores of the participants according to the number of registered friends in SNS

Factor (I) Number of Friends	Factor (J) Number of Friends	Group Means (I-J)	df	Sig.
1-49	50-99	5.16263	2.31726	.296
	100-149	2.92581	2.19048	.775
	150-199	3.37500	2.46031	.757
	>200	**7.47167**	2.11644	**.017**
50-99	1-49	-5.16263	2.31726	.296
	100-149	-2.23682	2.02849	.875
	150-199	-1.78763	2.31726	.963
	>200	2.30903	1,94830	.843
100-149	1-49	-2.92581	2.19048	.775
	50-99	2.23682	2.02849	.875
	150-199	.44919	2.19048	1.000
	>200	4.54585	1.79566	.176
150-199	1-49	-3.37500	2.46031	.757
	50-99	1.78763	2.31726	.963
	100-149	-.44919	2.19048	1.000
	>200	4.09667	2.11644	.444
>200	1-49	**-7.47167**	2.11644	**.017**
	50-99	-2.30903	1.94830	.843
	100-149	-4.54585	1.79566	.176
	149-199	-4.09667	2.11644	.444

Table 9: The ANOVA results for the differentiation of UCLA Loneliness scale scores of the participants according to the period of membership and staying

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       connected to SNS.

When the Table 9 was examined, no significant differentiation was observed between the UCLA scores of the participants and the duration of their becoming members to the SNS. Also Table 9 shows that no significant difference (p>.05) was observed among the UCLA scores of the participants according to the period they were connected to SNS. In other words, UCLA scores of the students did not differentiate according to the period the students were connected to SNS.

Discussion and Conclusion

In this study, firstly the practice of using social networking websites was examined in order to determine the participant profile. In this context, 93.41% of the participants were found to be members of any social networking websites. This obtained ratio clearly indicated the interest of today's students at high schools on social networking websites. When the reasons for using social networking web sites were asked, 95.36% of the participants stated that they were using social networking websites in order to communicate with their friends. This finding is in parallel with Lampe, Ellison and Steinfield's (2007) finding that individuals were using social networking websites in order to communicate with their friends in real life instead of making acquaintances with new friends. It can be claimed that the desire to communicate was an important factor in the context of the reasons for using online sharing websites. 53.30% of the participants were found to be members of the social networking website for 1 or 3 years. It is believed that this finding supported the contention that high school period was a period in which the use of social networking websites increased. 37.36% of the participants logged in the social networking website everyday and 34.07% of them logged in once in two days. At the same time, 44.71% of the participants thought that the time spent on the social networking website was not a waste of time. The effects of these environments which were visited frequently and not believed to be a waste of time on the age groups is a topic that should be examined in detail. The participants were asked whether they were thinking to leave the social networking website in the future in order to make inferences about the development potentials of the social networking websites and 87.06% of them replied negatively. This finding is seen as supporting Waters, Burnett, Lamm & Lucas's (2009) hypothesis that social networking websites would play a more important role in our life.

The investigation of the relationship between the practices of using social networking websites and loneliness was an important dimension of this study. In this context, ANOVA analysis was con 335

		Sum of Squares	df	Mean Square	F	Sig.
According to The Period of Membership to SNS	Between groups	179.360	3	59.787	.771	**.512**
	Within groups	12873.493	166	77.551		
	Total	13052.853	169			
According to The Period of Staying Connected to SNS	Between groups	488.477	3	162.826	2.151	**.096**
	Within groups	12564.376	166	75.689		
	Total	13052.853	169			2011

ducted in order to examine the relationship between the participants' UCLA loneliness scale scores and the number of their friends on the social networking website and it was found that there was a significant difference between the groups the number of whose friends were between 1-49 and over 200 in favor of the group the number of whose friends were between 1-49. The loneliness scores of the individuals who had fewer friends on the social networking website were found to be significantly higher. So, it can be said that this finding contradict previous findings (Amichai-Hamburger & Ben-Artzi, 2003; Fokkema & Knipscheer,; Leung, 2001; Morahan-Martin& Schumaher, 2003; 2007; Sumet al.,, 2008Whitty & McLaughlin, 2007;; Wang & Sun, 2009) that use of the internet and SNSs is associated with being lonely. This finding is in parallel with Ainley, Freberg, Adams, Enrique and Freberg's (2009) finding that there was a negative correlation between students' loneliness scores and the number of their online friends. However, no significant difference was found between the membership period to the social networking websites or the site navagation times and loneliness scores. Through this finding, it can be stated that there was no direct relation between the duration they used the sites and becoming lonely.

Two limitations need to be considered in the study. First, the current investigation was limited by perceptions of the students attending a vocational schools in Turkey, cultural and regional differences of the participants may well reveal different results. Second limitation of this study is that the numbers of participants was relatively small, similar studies can be made with larger groups. Third, experimental or longitudinal studies are needed in the future. Given the constantly changing cyberspace situation, scholars still have a limited understanding of who is and who is not using SNSs, why and for what purpose, a cross-cultural study would help enhance our understanding of knowledge sharing on SNSs. Such issues will require large-scale quantitative and qualitative research, but the findings would not only expand the researchers' horizon in knowledge sharing, but allow SNSs service providers to provide more effective strategies in managing successful SNSs as well.

In this study which was carried out with the users at high schools, it was aimed at determining how these social networking websites were related to the social relations of this age group and their skills for making connections as individuals. The obtained findings were thought to be helpful for further researches related to design social learning environments for students or evaluate online social network systems. Howewer, more researches are needed to better understand the effects of SNSs to our life and social interactions.

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