A comparative study of social network usage and adoption among Turkish prospective teachers

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Research on educational usage of social networks focused on university students because of their more intense usage of medium. In this context, it is necessary to determine social network usage objectives, adaptation levels and patterns of prospective teachers as future educators. The main purpose of this study is to analyze prospective teachers in terms of intended uses of social network sites and the level of adoption of social networks. Research was conducted with 453 prospective teachers' studying at the faculties of education in Marmara, a state university and Maltepe, a foundation university in Istanbul. In this study universities were also compared by their types and differences were found. For data collection, Intended Use of Social Networking Sites Scale and The Social Network Adoption Scale were used. In addition, authors developed a Personal Information Form to determine prospective teachers' demographic characteristics and patterns of use of social networks. For this study, comparative and relational analysis techniques were used and statistical results have been obtained. The results showed that (a) Prospective teachers' duration of use of social networks varies according to the type of foundation or state university; (b) Prospective teachers studying in both types of university, do not prefer social networks for discovery and recognition of themselves and their peers; (c) Prospective teachers' rates of educational use of social networks is quite high; (d) Prospective teachers' adoption levels of social networks is high.

Introduction

With the rapid development of information and communication technologies, individuals' social communication / interaction patterns have changed. Widespread use of technologies such as the internet and mobile phones make life easier and serve several purposes such as social networking and communication, education, research, and obtaining new information. Research in the field of human computer interaction can be addressed in this context (Strong, 1995; Köroğlu, 2012).

In Turkey, the ownership of technologies serving these purposes by individuals is relatively high. According to the ICT Usage Survey conducted by Turkey Statistical Institute, ownership of the computer and internet access of institutions was 88.7% and 85.4% in

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January 2007; these rates were increased to 90.6% and 89.2%, respectively in January 2008. In 2010, ownership of internet access increased to 90.9%. In the same study, as of 2011, the rate of mobile phone ownership in households reached 90.5% and urban-rural values were found close to each other (92.8% and 85%), which shows the prevalence of mobile phone ownership in the country (Turkey Statistical Institute, 2011). In particular, many studies carried out with young people determined the wide use of these environments (Deniz, 2001, 2007; Tutgun and Deniz, 2010). The Internet has become a preferred media for social interaction, communication and access to information, and increasingly finds a place in the lives of young people (Gemmill & Peterson, 2006; Wang, Moon et al., 2010; Tutgun, Deniz & Moon, 2011).

With widespread use of technological tools, social communication media are being developed and their use is increasing rapidly. According to Karal and Kokoç (2010), with the development of Web 2.0 technologies based on social interaction, cooperation, and sharing, Internet platforms started to be used differently today, and social networking sites are one of those platforms.

Turkey, with 32 million active users on Facebook ranks 7th worldwide (Socialbakers, 2013). 37% of Facebook users in Turkey consist of young people between the ages of 18-24, including university students (Socialbakers, 2013). Facebook is the social networking site of university students, the most popular and commonly used platform (Kabilan et al., 2010; Lampe et al., 2006). The use of microblogging site Twitter is also common. Reasons to use Twitter include being a part of the network, learning millions of people's ideas, feelings, interests, tweeting as a way of taking a note of what is going on in one's personal life, sharing thoughts, readings, information and being in touch with people (Fitton et al., 2010).

Technology literacy, from pedagogical point of view, can be beneficial to practice in this subject (Georgina & Hosford, 2009) However, in terms of novice teachers, supportive institutional policies and mentoring are also important about digital technologies (Starkey, 2010). Even if everything is the same, it may not be possible to provide the desired education outcomes in a standardized way because of individual differences, subjective opinions about the effects of technology and in terms of experience (Kim et al., 2013). In the pedagogical use of ICT, there are some issues open to development such as infrastructure problems, errors in the conceptual approach to technology, users' unsatisfactory usage experiences and high expectations (Martinovic & Zhang, 2012).

In the literature, there are various definitions of social networks and networking. Online social networking is a set of activities used by a group of people through social technologies (Hamid et al., 2009). Lenhart and Madden (2007) define social networks as any online location that the user can create his/her profile and establish personal network with other users. According to Preeti (2009), the concept of social networking is the formation of a community over the internet, to facilitate sharing their thoughts and interacting with each other in accordance with a common goal.

The intended use of social networks may vary. Social networks provide users with facilities such as: Promoting themselves in online environment and continuing to communicate with other users (Ellison et al., 2007), sharing the content they created (Kim et al., 2010) and discovering new friendships (Wang et al., 2010). The use of social networks for educational purposes is discussed extensively (Gülbahar et al., 2010; Ekici & Kıyıcı, 2012; Keleş & Demirel, 2011; Odabaşı et al., 2012; Özmen et al., 2011; Tiryakioğlu & Erzurum, 2011).

Ajjan and Hartshorne (2008) indicate that social networking sites can be used to improve co-operation and solidarity in higher education. Grant (as cited in Mazman, 2009 from Grant, 2008) points out that usage of social networks in educational environments provides a more effective communication between students and teachers, so that instructors know their students much better. Ferdig (2007) indicated that social networking applications are closely related to many pedagogical points in constructivist approach and claimed that these applications support pedagogical approaches like active learning, social learning and communities of practice and learning. In the research of Stanciu, Mihai and Aleca (2012), researchers examined the effect of social networks in the process of higher education in Romania, and the results indicated that social networking sites can be used for educational purposes and a model for learning processes in higher education with the use of Facebook is proposed. On the other hand, according to Schmucki and Meel (2010), Twitter and other social networks can be used in institutional structures such as schools for providing continuous communication and participation in decision-making processes for corporate employees and students, especially in the determination of common corporate policies. In addition, according to Ploderer et al. (2010) with Özmen et al. (2011), teachers can share resources and experiences with their colleagues from the same institution or different institutions by establishing professional learning communities of common interests and purposes.

Although, social networking sites are popular and regularly accessed by students, these sites have not yet been considered as a tool for teaching and learning processes (Stanciu et al., 2012). However, Usluel & Mazman (2009), found out that there is lack of attention on studies about the factors behind rapid adoption of social networks and revealing the cause of the active usage. In this regard, in the literature there are not any studies comparing students from state and foundation universities.

Students, teachers and school administrators create the vast majority of users of social networks. Therefore, the use of social networking sites for educational purposes and studies is necessary to adapt to the changing information technologies (Özmen et al., 2011).

In our study on the students of the Faculty of Education, in other words prospective teachers, the determination of their usage purposes, adoption levels and point of views of social networks are important. When studies on the educational use of social networking sites analyzed, lack of studies conducted with prospective teachers is noteworthy. If prospective teachers, benefit from social networking sites for educational purposes in their professional lives, it may be effective for the guidance of students to useful activities. Before using these environments for educational purposes, teachers' adoption and purpose of usage must be determined. Thus, future studies can be done, and if there is any necessity, measures can be taken. Because of this, "A Comparative Study of Social Network Usage and Adoption Among Turkish Prospective Teachers" was determined as our research topic.

The aim of our study is to analyze prospective teachers in terms of intended uses of social network sites and the level of adoption of social networks.

Method

In this study, conclusions were reached by the quantitative analysis of the data obtained with Intended Use of Social Networking Sites Scale, Social Networks Adoption Scale and Personal Information Form. Therefore, according to Karasar (1994), this study is the general scanning model within the scanning models.

Participants

Research participants were 453 students from Maltepe University (Foundation University) and Marmara University (State University) Faculty of Education, in 2012-2013 academic year. The participants consists of 290 (64%) female and 163 (36%) male students. The students who participated in the study were from eight different departments (English Language Teaching, Primary School Mathematics Teacher Training, CEIT-Computer Education and Instructional Technologies, Guidance and Psychological Counseling, Teacher Training for the Mentally Handicapped, Teacher Training for the Gifted, Social Studies Teacher Training, Teacher Training in Literature). 205 (45.3%) of the participants were state, 248 (54.7%) of them were foundation university students.

Questions

1. What are the demographic characteristics and usage patterns of social networking sites of prospective teachers in state and foundation universities?
2. What are the purposes of usage of social networking sites by prospective teachers in state and foundation universities?
3. What are the adoption levels of social networks of prospective teachers in state and foundation universities?
4. Is there a differentiation in prospective teachers' levels of adoption of social networking sites and sub levels (utility, ease of use, social influence, facilitating factors, and community identity), according to their demographic characteristics (gender, university type, department, etc.) and usage patterns of social networks (the amount of daily use, social networking profiles, etc.)?
5. Is there a relationship between purposes of usage of social networking sites and levels of adoption of prospective teachers in state and foundation universities?

Data Gathering Instruments

For data collection, Karal and Kokoç's (2010) Intended Use of Social Networking Sites Scale and Usluel and Mazman's (2009) Social Networks Adoption Scale were used. In order to determine demographic characteristics and social network habits of the participants, also a Personal Information Form was developed by the authors. The participants filled the questionnaire within 12 minutes in 2012-2013 academic year, according to the principle of voluntariness.

Data Analysis

The data was analyzed with SPSS 18 (PASW) statistical software with following techniques: frequency measurement, independent sample t-test, analysis of variance, LSD analysis and correlation.

Findings

First of all, participants' demographic characteristics and usage patterns of social networking sites have been analysed.

With the total of 82.3%, computer ownership is high in the participant groups from both universities (State: 82.4%, Foundation: 82.3%). Ownership of internet connection is also high in both university types (State: 83.4%, Foundation: 91.9%). Facebook account ownership rate is high in both university types too (State: 89.8%, Foundation: 87.5%). According to the answers, 80.6% (n = 365) of the participants have only one Facebook

account, and 6.4% (n = 29) of the participants have two accounts. Very few of the respondents have 3 accounts (1.3%, n = 6) or 5 accounts (.4%, n = 2). In both university types, participants having Twitter account are above average (State: 51.7%, Foundation: 58.9%). 53.9% of the participants who use Twitter have only one account. Account ownership status in other social networks was also questioned. Accordingly, there are 179 participants (39.5%) who have accounts in other social networking sites, and 269 participants (59.4%) who do not have accounts in other social networking sites. Other popular social networks are Youtube (20.8%), Foursquare (16.9%), Instagram (17.4%), other (%38.2).

Mobile phone usage with internet connection is fairly high (State: 71.7%, Foundation: 79.4%). Also, 64.9% of participants have social networking applications in their mobile devices. Prospective teachers are accessing social networks from their mobile phones.

The participants' daily duration of connection to social networks varies by the type of university. In state university, majority (45.4%) is less than an hour connecting to the sites, and the second biggest group is 1-3 hours (36.1%) connecting to the sites. Whereas, majority of participants from foundation university is connecting 1-3 hours (41.1%), and participants connecting less than an hour rank second (38.7%). This may be caused because of participants from foundation university have more mobile internet connection ownership.

On the other hand, the participants were also asked since when they have been using social networks. Accordingly, in both types of university, users of 3-5 years are the majority (31.3%). Users for 1-3 years (27.6%) come in the second place, and users for more than 5 years (26.5%) come in third place. As a result, more than half (57.8%) of the participants are users of social networks for more than 3 years. However, it is particularly noteworthy that 7.5% of the participants use social networks for less than a year.

Another aim of the research was to determine usage objective of social networking sites by prospective teachers in state and foundation universities. For this purpose, three sub-goals have been analyzed: Social interaction and communication, identification and recognition, and education.

Analysis of the questions about social networking sites' use of social interaction and communication purposes:

More than half of the participants from both university types are using social networking sites for the opportunity to create his/her own unique space. The sum of the positive options in both university types are above average (State: %66.8; Foundation: %79.5).

The participants in both university types agree about their usage of social networking sites in order to maintain communication with existing friends almost completely. Sum of the choosers of completely agree and agree choices are above average (State:%73.6; Foundation: %84.3).

Table 1: Usage in order to examine the lives of friends and people of interest

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	18 (8.8)	28 (11.3)	46 (10.2)
Disagree	44 (21.5)	44 (18.1)	89 (19.6)
Moderately agree	59 (28.8)	84 (33.9)	143 (31.6)
Agree	51 (24.9)	68 (27.4)	119 (26.3)
Completely agree	22 (11.2)	21 (8.5)	43 (10.3)

Missing value	11 (5.4)	2 (.8)	13 (2.9)
TOTAL	205 (100)	248 (100)	453 (100)

The participants from both university types moderately agree mostly on the usage in order to examine the lives of friends and people of interest. However, sum of the choosers of moderately agree, completely agree and agree choices are above average (State: %64.9; Foundation: %68.8). On the other hand, in both university types, total ratio of disagreed and completely disagreed participants are at a substantial degree (State: %30.3; Foundation: %29.4).

Table 2: Usage for the purpose of recontacting old friends

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	8 (3.9)	15 (6.0)	23 (5.1)
Disagree	10 (4.9)	12 (4.8)	22 (4.9)
Moderately agree	40 (19.5)	56 (22.6)	96 (21.2)
Agree	80 (39.0)	99 (39.9)	179 (39.5)
Completely agree	54 (26.3)	64 (25.8)	118 (26.0)
Missing value	13 (6.3)	2 (.8)	15 (3.3)
TOTAL	205 (100)	248 (100)	453 (100)

Usage for the purpose of recontacting old friends by the participants is quite high in both university types. Accordingly, total percentage of choosers of moderately agree, agree and completely agree choices are %84.8 in state university, %88.3 in foundation university.

Table 3: Usage to share thoughts with others

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	18 (8.8)	20 (8.1)	38 (8.4)
Disagree	29 (14.1)	36 (14.5)	65 (14.3)
Moderately agree	77 (37.6)	73 (29.4)	150 (33.1)
Agree	50 (24.4)	93 (37.5)	143 (31.6)
Completely agree	20 (9.8)	24 (9.7)	44 (9.7)
Missing value	11 (5.4)	2 (.8)	13 (2.9)
TOTAL	205 (100)	248 (100)	453 (100)

When Table 12 analyzed, it is easily seen that the usage to share thoughts with others, most of the state university participants moderately agree (%37.6), most of the foundation university participants agree (%37.5). Sum of the choosers of moderately agree, completely agree and agree choices in both university types are above average (State: %71.8; Foundation: %76.6). On the other hand, in both university types, total ratios of disagreed and completely disagreed participants are at a substantial level (State: %22.9; Foundation: %22.6).

Table 4: Usage to participate in groups of interest

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	16 (7.8)	25 (10.1)	41 (9.1)
Disagree	28 (13.7)	43 (17.3)	71 (15.7)
Moderately agree	61 (29.8)	72 (29.0)	133 (29.4)
Agree	65 (31.7)	75 (30.2)	140 (30.9)
Completely agree	22 (10.7)	29 (11.7)	51 (11.3)
Missing value	13 (6.3)	4 (1.6)	17 (3.8)
TOTAL	205 (100)	248 (100)	453 (100)

Usage to participate in groups of interest by the participants is quite high in both university types. Accordingly, total percentage of the choosers of moderately agree, completely agree and agree choices are %72.2 in state university, %70.9 in foundation university. On the other

hand, the ratio of the choosers of disagree and strongly disagree choices is %21.5 and %27.4 respectively.

Table 5: Usage to share favorite objects (video, pictures, etc)

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	16 (7.8)	20 (8.1)	36 (7.9)
Disagree	21 (10.2)	28 (11.3)	49 (10.8)
Moderately agree	64 (31.2)	73 (29.4)	137 (30.2)
Agree	69 (33.7)	90 (36.3)	159 (35.1)
Completely agree	23 (11.2)	35 (14.7)	58 (13.6)
Missing value	12 (5.9)	2 (.8)	14 (3.1)
TOTAL	205 (100)	248 (100)	453 (100)

Usage to share favourite objects (video, pictures, etc) in both university types is high. Those who reported a favourable opinion are %76.1 in state university, and %80.4 in foundation university.

Analysis of the questions about social networking sites' use of identification and recognition:

Table 6: Usage to meet new people and build new friendships

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	53 (25.9)	68 (27.4)	121 (26.7)
Disagree	60 (29.3)	81 (32.7)	141 (31.1)
Moderately agree	50 (24.4)	58 (23.4)	108 (23.8)
Agree	22 (10.7)	32 (12.9)	54 (11.9)
Completely agree	9 (4.4)	8 (3.2)	17 (3.8)
Missing value	11 (5.4)	1 (.4)	12 (2.6)
TOTAL	205 (100)	248 (100)	453 (100)

Favourable opinion on usage to meet new people and build new friendships is low. In both university types, disagree choice is in the first place (%29.3; %32.7), while strongly disagree choice is in the second place (%25.9; %27.4).

Table 7: Usage for the purpose of recognition by other people

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	70 (34.1)	104 (41.9)	174 (38.4)
Disagree	76 (37.1)	83 (33.5)	159 (35.1)
Moderately agree	33 (16.1)	40 (16.1)	73 (16.1)
Agree	11 (5.4)	12 (4.8)	23 (5.1)
Completely agree	2 (1.0)	6 (2.4)	8 (1.8)
Missing value	13 (6.3)	3 (1.2)	16 (3.5)
TOTAL	205 (100)	248 (100)	453 (100)

Favourable opinion on usage for the purpose of recognition by other people is quite low. In both university types, ratio of choosers of strongly disagree and disagree choices is above average (State: %71.2; Foundation: %75.4).

Table 8: Usage in order to meet people from different cultures

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	45 (22.0)	47 (19.0)	92 (20.3)
Disagree	61 (29.8)	88 (35.5)	149 (32.9)

	State	Foundation	TOTAL
Moderately agree	48 (23.4)	71 (28.6)	119 (26.3)
Agree	28 (13.7)	25 (10.1)	53 (11.7)
Completely agree	11 (5.4)	15 (6.0)	26 (5.7)
Missing value	12 (5.9)	2 (.8)	14 (3.1)
TOTAL	205 (100)	248 (100)	453 (100)

Favourable opinion on usage in order to meet people from different cultures is low. In both universities, the ratio of choosers of strongly disagree and disagree choices is %51.8 and %54.5 respectively. However, rate of moderately agree choice is at a considerable level. Accordingly, ratio of favourable opinions is close to the average (State:%42.5; Foundation: %44.7).

Analysis of the questions about social networking sites' use in education:

Table 9: Usage to do research on school projects/assignments

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	25 (12.2)	25 (10.1)	50 (11.0)
Disagree	34 (16.6)	42 (16.9)	76 (16.8)
Moderately agree	61 (29.8)	63 (25.4)	124 (27.4)
Agree	47 (22.9)	73 (29.4)	120 (26.5)
Completely agree	25 (12.2)	43 (17.3)	68 (15.0)
Missing value	13 (6.3)	2 (.8)	15 (3.3)
TOTAL	205 (100)	248 (100)	453 (100)

Majority of participants reported positive opinions on usage to do research on school projects/assignments. Favourable opinions are above average (State: %64.9; Foundation: %72.1).

Table 10: Usage to examine educational groups and activities

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	12 (5.9)	18 (7.3)	30 (6.6)
Disagree	19 (9.3)	32 (12.9)	51 (11.3)
Moderately agree	55 (26.8)	72 (29.0)	127 (28.0)
Agree	76 (37.1)	87 (35.1)	163 (36.0)
Completely agree	30 (14.6)	36 (14.5)	66 (14.6)
Missing value	13 (6.3)	3 (1.2)	16 (3.5)
TOTAL	205 (100)	248 (100)	453 (100)

Favourable opinion on usage to examine educational groups and activities is very high. In both types of universities, the participants mostly agree on the favourable usage (State: %37.1; Foundation: %35.1). The total ratio of favourable opinions is %78.5 in state university, %78.6 in foundation university.

Table 11: Usage in order to meet up-to-date, different information and ideas

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	10 (4.9)	10 (4.0)	20 (4.4)
Disagree	11 (5.4)	14 (5.6)	25 (5.5)
Moderately agree	49 (23.9)	46 (18.5)	95 (21.0)
Agree	74 (36.1)	103 (41.5)	177 (39.1)
Completely agree	49 (23.9)	72 (29.0)	121 (26.7)
Missing value	12 (5.9)	3 (1.2)	15 (3.3)
TOTAL	205 (100)	248 (100)	453 (100)

Favourable opinion on usage in order to meet up-to-date, different information and ideas is quite high and the rate of positive opinions is above average (State: %83.9; Foundation: %89)

Table 12: Usage in order to improve knowledge of a foreign language

	State	Foundation	TOTAL
	f (%)	f (%)	f (%)
Strongly disagree	40 (19.5)	30 (12.1)	70 (15.5)
Disagree	70 (34.1)	82 (33.1)	152 (33.6)
Moderately agree	52 (25.4)	72 (29.0)	124 (27.4)
Agree	24 (11.7)	41 (16.5)	65 (14.3)
Completely agree	7 (3.4)	22 (8.9)	29 (6.4)
Missing value	12 (5.9)	1 (.4)	13 (2.9)
TOTAL	205 (100)	248 (100)	453 (100)

Ratio of negative opinion on usage in order to improve knowledge of a foreign language in both university types is high. Total percentage of disagree and strongly disagree is %53.6 in state, %45.2 in foundation. However, the total ratios of choosers of moderately agree, agree and completely agree choices are at a substantial degree (State: %40.5; Foundation: %54.4). In foundation university, usage in order to improve the knowledge of a foreign language is more common than state university.

Another research objective is to find out the level of adoption of social networks by prospective teachers in state and foundation universities.

Table 13: Prospective teachers' adoption levels of social networks

	State			Foundation			TOTAL		
	N	$\overline{x}$	Sd	N	$\overline{x}$	Sd	N	$\overline{x}$	Sd
Benefit	205	24.50	7.65	248	24.08	8.16	453	24.27	7.93
Ease of use	205	32.44	7.03	248	32.23	9.52	453	32.33	8.48
Social impact	205	19.18	8.28	248	18.84	8.18	453	19.00	8.22
Facilitating factors	205	37.28	8.53	248	36.10	10.17	453	36.63	9.47
Community identification	205	23.16	8.96	248	20.88	9.42	453	21.91	9.28
Total adoption	205	136.58	27.64	248	132.15	28.82	453	134.16	28.35

Of participants in both university types, levels of adoption and sub levels are similar. Accordingly, the prospective teachers' adoption of social networks is very high ($\overline{x}$=134.16). When sub levels (benefit, ease of use, social impact, facilitating factors, community identification) are examined, social networks are adopted especially because of ease of use and facilitating factors. Maximum score for both factors is 40. Accordingly, prospective teachers have a high average of scores ($\overline{x}$=32.33; $\overline{x}$=36.63). Benefit ($\overline{x}$=24.27) and community identification ($\overline{x}$=21.91) factors are above average. But social impact factor is slightly higher than the average ($\overline{x}$=19.00).

In another research objective, differentiation of level of adoption of social networks by prospective teachers and sub levels (benefit, ease of use, social impact, facilitating factors, community identification) compared to demographic characteristics (Gender, university type, department etc.) and usage patterns of social networks (amount of daily use, social networking preferences etc.) is analyzed.

Table 14: Levels of adoption of social networks by gender

	Sex	n	Mean	sd	df	t	p
Benefit	Male	163	43.70	7.99	332	.984	n.s
	Female	290	37.72	7.90			
Ease of use	Male	163	31.93	9.97	266	.741	n.s.

	Female	290	32.55	7.52			
Social impact	Male	163	18.72	8.02	346	.535	n.s.
	Female	290	19.15	8.33			
Facilitating factors	Male	163	35.08	8.30	388	2.63	0.009
	Female	290	37.50	9.97			
Community identification	Male	163	22.52	8.77	360	-1.041	n.s
	Female	290	21.57	9.55			
Total adoption	Male	163	132.05	28.53	332	1.185	n.s
	Female	290	135.34	28.23			

Based on analysis of variance and LSD tests conducted by gender, a difference was observed at the level of facilitating factors (p<0.05). Accordingly, the female participants adopt social networks more than males, due to the facilitating factors.

Table 15: Levels of adoption of social networks based on having mobile connection

	Mobile Connection	n	Mean	sd	df	t	p
Benefit	Yes, I have	344	24.68	7.82	139	2.005	0.046
	No, I haven't	92	22.83	8.12			
Ease of use	Yes, I have	344	33.04	8.49	146	3.158	0.002
	No, I haven't	92	29.91	8.25			
Social impact	Yes, I have	344	19.22	8.39	152	1.153	n.s.
	No, I haven't	92	18.10	7.79			
Facilitating factors	Yes, I have	344	37.44	9.69	160	3.165	0.002
	No, I haven't	92	33.93	8.46			
Community identification	Yes, I have	344	22.23	9.32	145	1.166	n.s
	No, I haven't	92	20.96	9.19			
Total adoption	Yes, I have	344	136.62	27.99	142	3.310	0.001
	No, I haven't	92	125.73	28.15			

Many sub levels and total adoption level vary according to having mobile connection (p<0.05). Accordingly, participants who have a mobile connection adopt social networks because they are useful, easy to use and have facilitating factors. When total adoption scores were examined, a significant difference was found again (p<0.05). As a result, participants who have a mobile connection adopt social networks more than those who do not.

On the other hand, adoption levels of participants with fixed internet connection were also investigated, and no significant difference was observed at the level of adoption.

Table 16: Levels of adoption of social networks based on having an account in any social network

	Having Account	n	Mean	sd	df	t	p
Benefit	Yes, I have	179	25.45	7.61	395	2.648	0.008
	No, I haven't	269	23.44	8.04			
Ease of use	Yes, I have	179	34.36	8.95	348	4.198	0.000
	No, I haven't	269	30.98	7.92			
Social impact	Yes, I have	179	19.57	8.40	371	1.330	n.s.
	No, I haven't	269	18.52	8.08			
Facilitating factors	Yes, I have	179	38.74	8.15	428	3.762	0.000
	No, I haven't	269	35.36	10.04			
Community identification	Yes, I have	179	23.12	9.31	378	2.326	0.020
	No, I haven't	269	21.04	9.19			
Total adoption	Yes, I have	179	141.27	2727.9	389	4.446	0.000
	No, I haven't	269	129.36	28.09			

Participants who have an account in any social networking site other than Facebook and Twitter are adopting social networks more (p<0.01). Accordingly, participants who have accounts in other social networks think about Facebook that it is more beneficial, has more facilitating factors and provides more community identification. Levels of adoption does not change regarding social impact (p>0,05).

On the other hand, when adoption levels examined based on having Facebook account, a significant difference was found only at the level of ease of use (t=2.101; p<0.05). When adoption levels of participants who have a Twitter account are analyzed, significant differences were obtained only in ease of use (t=2.696; p<0.05), community identification (t=2.168; p<0.05) and total adoption levels (t=2.304; p<0.05).

In addition, the participants' adoption levels were investigated according to their communication with their families through social networking sites. Accordingly, at the level of benefit (t=2.174; p<0.05), community identification (t=3.806; p<0.01) and total adoption (t=2.762; p<0.05) significant differences were obtained.

Participants' adoption levels were also analyzed on how long they have been using social networking sites. Accordingly, prospective teachers who have been using Facebook for more than 5 years, are adopting social networks more for their benefit level, compared to those who use social networks for less than 1 year (F=5.732; p=0.001). On the other hand, according to the analysis made at the level of community identification, with more Facebook usage years, adoption of social networks is also increasing (F=5.553; p=0.001). When Total Adoption scores were examined, it is understood that long time Facebook users adopt social networks more than those of using Facebook for a shorter time (F=5.376; p<0.05).

Table 17: Levels of adoption of social networks according to the duration of daily use

	Daily Use	n	Mean	sd	F	P	Difference
Benefit	Less than 1 hour	189	22.33	8.40	11.21	0.000	Less than 1 hour<1-3 hours; Less than 1 hour<3-5 hours; Less than 1 hour<More than 5 hours
	1-3 hours	176	24.80	7.33			
	3-5 hours	41	28.30	6.63			
	More than 5 hours	24	29.32	7.73			
Ease of use	Less than 1 hour	189	31.45	9.88	3.07	0.017	Less than 1 hour<3-5 hours; Less than 1 hour<More than 5 hours
	1-3 hours	176	32.42	7.58			
	3-5 hours	41	34.90	6.61			
	More than 5 hours	24	35.54	6.70			
Social impact	Less than 1 hour	189	18.58	8.38	1.51	n.s.	-
	1-3 hours	176	18.65	7.85			
	3-5 hours	41	20.11	9.15			
	More than 5 hours	24	21.99	10.31			
Facilitating factors	Less than 1 hour	189	35.24	9.13	3.19	0.024	Less than 1 hour<3-5 hours; Less than 1 hour<More than 5 hours
	1-3 hours	176	37.21	10.33			
	3-5 hours	41	38.99	8.87			
	More than 5 hours	24	39.72	8.75			
Community identification	Less than 1 hour	189	20.94	9.16	3.35	0.029	Less than 1 hour<More than 5 hours
	1-3 hours	176	21.96	9.49			
	3-5 hours	41	23.59	8.98			
	More than 5 hours	24	26.54	11.44			
Total adoption	Less than 1 hour	189	128.55	30.05	8.53	0.000	Less than 1 hour<1-3 hours; Less than 1 hour<3-5 hours; Less than 1 hour<More than 5 hours; 1-3 hours<3-5 hours; 1-3 hours< More than 5 hours
	1-3 hours	176	135.05	26.54			
	3-5 hours	41	145.90	24.76			
	More than 5 hours	24	153.14	30.54			

A high level of significant difference was found at the level of benefit (F=11.21; p<0.01). Prospective teachers using social networks for less than 1 hour per day, find social networks less useful compared to those who use more hours (1-3, 3-5, and more than 5 hours). When facilitating factors were analyzed, prospective teachers using social networks 3 hours or more per day adopt more than those who use social networks less than 1 hour per day, because of facilitating factors. (F=3.19; p<0.05). According to the results of the analysis at the level of Community identification, users of social networks over 5 hours per day adopt social networks more, compared to those who use less than 1 hour because of community identification (F=3.35; p<0.05). In the analysis of total adoption, a high level of differentiation was obtained (F=8.53; p<0.01). As a result, it can be said that with the increase in daily use of social networking, the level of adoption also increases.

On the other hand, comparison between both types of universities' education departments, differentiation was found in the adoption of social networks at the level of benefit (p<0.05). Accordingly, departments of CEIT (Computer Education and Instructional Technologies), Social Studies Education and Guidance and Counselling adopt social networks more at usefulness level compared to the English Language Teaching department. Other departments do not differ (p>0,05).

In addition, levels of adoption by participants according to the type of university they are attending differentiated only at community identification level. Accordingly, state university teacher candidates compared to participants in foundation university are adopting social networks more in creating community identification (t=2.628; p<0.05). No difference was observed at the other levels of adoption (p>0,05).

Finally, in the comparison between senior and junior students, seniors were adopting social networks more compared to freshmen and sophomores (F=3.086; p<0.05).

The last research objective was, whether there is a relationship between usage aims of social networking sites and levels of adoption of social networks by participants from state and foundation universities.

In both university types, a positive and moderate level of relation was determined between the usage aim of social networks and the level of adoption (State: r = 0,392, p<0,001; Foundation: r=0.373, p<0,001). Accordingly, with the increase of the level of adoption, usage aim of social networks is also increasing.

Conclusion and Discussion

In this study, prospective teachers' intended uses of social networking sites and adoption levels of social networks are analyzed and comparisons made between state and foundation universities.

First of all, *according to our **first research question***, demographic characteristics and usage patterns of social networking sites of prospective teachers from state and foundation universities were determined. To this end, personal computer ownership has been analyzed. In both university types, prospective teachers were found to highly have their own computers (%82.3), but the rate of the group without a personal computer is also noteworthy (16.3%). This rate is close to each other in both university types. On the other hand, 91.9% of prospective teachers in foundation university owns internet connection, while it is %83.4 in state university. Of prospective teachers in state university who do not own a personal computer, one may assume that they also do not have internet connection. Whereas, 16.5% of

the participants from foundation university do not have personal computers and 7.7% do not have internet connection. This can be explained with prospective teachers from foundation university use their mobile phones for Internet access. Because when the ownership of mobile connection status is questioned, prospective teachers from foundation university were found to have more mobile internet access than participants from the state university. According to the analysis, 24.4% of participants from the state university do not have mobile internet access. In foundation university, the ratio was 16.9%.

In 2010, according to Turkey Statistical Institute ICT Usage Survey, internet access ownership is 90.9% in Turkey. 91.9% of foundation university participants having internet connection is also consistent with this study. Several studies carried out with young people (Deniz, 2001, 2007; Tutgun & Deniz, 2010) have found out that they are using Internet widely even though 83.4% of the prospective teachers from state university have internet access. According to the results of our study, internet access ownership should be considered in relation with the ownership of mobile connection. This situation can be explained by socio-economic differences. On the other hand, the results are supporting other studies that young people are accessing the Internet via the computer and mobile widely (Gemmill & Peterson, 2006; Wang et al., 2010; Tutgun et al., 2011; Turkey Statistical Institute, 2011).

From the analysis of prospective teachers' accounts in social networking sites, Facebook account rates for participants from both universities are close to each other (State:%89.8; Foundation: %87.5). Akyazı and Tutgun Ünal (2013) found in their research with communication faculty students also similar results (State: 89%; Foundation: 89.4%). These findings show that Facebook usage is widespread among university students. Twitter account ownership rates of foundation university participants are 58.9% and state university participants are 51.7%. 179 participants (39.5%) have other social networking accounts, 269 participants (59.4%) do not. After Facebook and Twitter, the other popular social networks are YouTube (20.8%), Foursquare (16.9%), Instagram (17.4%), and others (%38.2). This result supports the other research on Facebook usage (Kabilan et al., 2010; Lampe et al., 2006). 64.9% of participants have social network applications in their mobile devices. Thus, prospective teachers are accessing social networks via mobile phones. Participants from foundation university have more Twitter accounts than participants from state university because they have more mobile access and social network applications. Twitter is based on writing instant messages, so this result was not surprising.

According to the results, daily usage time of social networks varies by the type of participants' university. 45.4% of state university participants are using social networks less than 1 hour and 36.1% of them are using 1-3 hours on a daily basis. On the contrary, 41.1% of foundation university participants are using social networks 1-3 hours and 38.7% of them are using less than 1 hour in a day. This is may be due to high levels of mobile connection ownership in foundation university. Foundation university students who access social networks for a long period of time are more than state university students (3-5 hours per day 10.1%, and more than 5 hours 6.5%). On this result, studies can be conducted about addiction and pathological consequences.

How long the participants have been using social networks were analyzed. Accordingly, more than half of the participants have been using (57.8%) social networks for 3 years and over. This result is indicative of the rising generation of young people started using the internet earlier than other generations. Wright (2001) highlights the aforementioned situation by calling them the Net Generation.

Another research objective was, *according to our **second research question***, to find out usage purposes of social networking sites of prospective teachers in state and foundation universities. For this objective, three factors were analyzed: social interaction and communication purposes, identification and recognition purposes and educational purposes. Each factor was measured by a number of questions. Based on this, within the scope of social communication and interaction purposes, these rates were quite high: To maintain communication with existing friends (State: 73.6%; Foundation: 84.3%), to communicate with old friends again (State: 84.8%; Foundation: 88.3%), share favourite objects (video, pictures, etc). (State: 76.1%; Foundation: 80.4%), participate in engaging groups (State: 72.2%; Foundation: 70.9%), to share his/her thoughts with others (State: 71.8%; Foundation: 76.6%). On the other hand, usage for creating a profile, a personal page, etc. is lower in state university (State: 66.8%; Foundation: 79.5%). Usage rate "to examine the lives of friends and others" is lower (State: 64.9%; Foundation: 68.8%).

Social networks provide users opportunities such as promoting themselves online, communicating with other users (Ellison et al., 2007), content sharing (Kim et al., 2010) and finding new friends (Wang et al, 2010). According to our findings, a high proportion of prospective teachers benefit from these opportunities. Lenhart and Madden (2007) define social networks as online places where users can create profiles and establish a personal network connecting to other users. Social interaction and communication is in the definition of social networks. Our research results revealed that usage of social networks by prospective teachers serves this purpose.

The use of social networking sites for identification and recognition is lower: To meet new people and build new friendships (Do not agree: state 55.2% foundation 60.1%), to be recognized by other people (Do not agree: state of 71.2%, foundation 75.4%). On the other hand, usage "to meet people from different cultures" percentage of agreeing prospective teachers in different degrees is close to half of the total participants (State: 42.5%; Foundation: 44.7%).

According to the results, prospective teachers do not much prefer using social networking sites for identification and recognition. One purpose of social networks is to introduce oneself online. Even so, participants preferred this purpose less. On the other hand, for social interaction and communication, choices of "maintaining contact with existing friends" and "getting in touch with old friends again" rates are very high. Prospective teachers on social networks aim to communicate with present and old friends rather than finding new ones.

Ratio of teachers who have a positive opinion on the use of social networking for educational purposes is quite high: To do research on school projects/assignments (State: 64.9%; Foundation: 72.1%), to examine groups and activities for education (State: 78.5%; Foundation: 78.6%), to meet different and up to date information and ideas (State: 83.9%; Foundation: 89%). However, those who reported a positive opinion on usage in order to improve the knowledge of foreign language vary in different universities (State: 40.5%; Foundation: 54.4%). This item does not very high participation rate, but the total percentage of positive responses of different degrees was at a substantial level. On the other hand, when the results are analyzed according to the type of university, foundation university participation rates are higher. Foundation university teachers having more internet access and mobile connectivity may be the reason for this. To clarify the situation, in both types of universities, more research can be made on prospective teachers' attitudes towards use of social networks for educational purposes.

Emphasized topics in the literature include: social networking sites can be used to improve cooperation and collaboration in higher education (Ajjan & Hartshorne, 2008). Thanks to these environments, teachers recognize students better (Mazman, 2009), social networking applications are closely related to many pedagogical points in constructivist approach and support some pedagogical approaches, such as active learning, social learning, communities of practice and learning (Ferding, 2007). However, more detailed studies should be made about prospective teachers' use of social networking for educational purposes. According to our research, prospective teachers are using social networks for educational purposes more than average. Participants' favorable opinion of over 80% on usage in order to "encounter the up-to-date different information and ideas" is particularly remarkable.

*On our **third research question***, according to our research, state and foundation universities' prospective teachers' adoption levels of social networks are close to each other. Based on this, participants adoption levels are very high ($\overline{x}$=134.16). The questions determining the level of adoption were about Facebook. When adoption is analyzed, Facebook adoption is due to the ease of use and facilitating factors. Maximum score for each factor is 40 and participants have higher scores ($\overline{x}$=32.33; $\overline{x}$=36.63). Other lower analysis levels are also highly effective (utility, social impact, community identification).

*On our **fourth research question***, differentiation in adoption levels of the prospective teachers according to demographic characteristics and social network usage patterns were also studied. Female prospective teachers adopt Facebook more than males because of the facilitating factors (t=2.63; p<0.05). Other levels of adoption were not found to differ by gender.

To have a mobile connection differentiates many sub levels and total adoption level (p<0.05). Prospective teachers with mobile connection adopt Facebook because it is useful, easy to use, and has facilitating factors, so they adopt Facebook more. Prospective teachers' levels of adoption are differentiated with mobile connection but have not differentiated with internet connection.

When adoption levels of participants with accounts in social networks analyzed, a significant difference was found at the level of ease of use in participants with Facebook accounts (t=2.101; p<0.05). Significant differences were obtained with participants with Twitter accounts in the levels of ease of use (t=2.696; p<0.05), community identification (t=2.168; p<0.05) and total adoption (t=2.304; p<0.05). Adoption levels of participants with an account in other social networks are highly differentiated (p<0.01). Prospective teachers with an account in other social networks are adopting Facebook because it is more useful, easy to use, has facilitating factors and provides community identification.

Prospective teachers' adoption levels according to their communication with the families over social networking sites were also analyzed. According to the results, there are significant differences in the levels of benefit (t=2.174; p<0.05), community identification (t=3.806; p<0.01) and total adoption (t=2.762; p<0.05). Participants who use social networks to communicate with their families, naturally find them useful and adopt them more.

Prospective teachers' adoption levels according to total usage time of social networking sites were also analyzed. Facebook users for more than 5 years find it more useful and adopt it more than users of less than 1 year (F=5.732; p=0.001). Based on their total adoption scores, Facebook users for a long time are adopting social networks more (F=5.376; p<0.05).

According to the duration of daily use, the participants adoption levels are highly differentiated (F=8.53; p<0.01). Participants, who spend more time in social networks in a day, find social networks more useful compared to participants who spend less time. In addition, according to the results of the analysis at the level of community identification, those who use social networks 5 hours or more per day compared to those who use less than 1 hour, adopt social networks more (F=3.35; p<0.05). When all levels were analyzed, it can be said that while daily use of social networking increases, level of adoption also increases. This result was not surprising because it is natural for adopters of social networks to allocate more time per day than others. But it is noteworthy that there are participants adopting because of Community identification and spending time on social networks over 5 hours per day (n=24; Mean=26.54). It is important to identify these prospective teachers with detailed research and to take necessary action.

On the other hand, when departments are compared, CEIT (Computer Education and Instructional Technologies), Social Science Education and Guidance and Counselling departments are adopting social networks more on usefulness level than English Language Teaching department. Other departments do not Show difference (p>0,05). It is interesting to note that while some departments embrace social networks by finding them useful, English Language Teaching department has the lowest ratings. Another interesting result, depending on the type of participants' university, adoption levels are differentiated only at the community identification level. Accordingly, state university students adopt social networks more to create community identification than foundation university students (t=2.628; p<0.05). The reasons for these results can be determined with detailed research in universities and departments.

Participants in senior classes are adopting social networks more than freshmen and sophomore students (F=3.086; p<0.05). It can be said that senior prospective students have their own social environment and relationships, and carry on these relationships through social networks, but first and second year students do not much have these environment and relationships. Freshmen start with creating new environment and relationships. At first, it can be seen natural that as a friendship and communication environment, they embrace social networks less.

Finally, *according to our **fifth research question***, relationship between the intended uses and levels of adoption of social networks of prospective teachers in state and foundation universities was analyzed and positive and moderate correlation was found (State: r = 0,392, p<0,001; Foundation: r=0.373, p<0,001). Accordingly, with the level of adoption increasing, the intended use of social networks is also increasing. As a result, prospective teachers who adopt social networking sites exhibit a more positive attitude to use social networking sites for multiple purposes.

Today, social networks are widely used for many purposes throughout the world. Academic studies on social networks are also increasing. Educational communities are discussing and exploring the use of social networks for educational purposes. It would be useful to implement these studies in education faculties on prospective teachers. In the literature, detailed analysis and studies specifically on prospective teachers are not found. The secondary objective of this study is the use of social networks in education. First, however, the following situations must be determined: Purposes of prospective teachers' use of social networks, usage characteristics of social networks, adoption level of social networks, what the variables of differences in the levels of adoption, relationship between the levels of adoption and the intended use. On the other hand, in this study, an idea of perspectives was obtained

from prospective teachers on the use of social networks for educational purposes. Based on the research findings, some recommendations can be made:

1. State university prospective teachers' access facilities to the Internet outside the campuses can be increased.
2. Prospective teachers who spend much of their time in social networks can be guided to seminars on time management.
3. With seminars on educational use of social networks, prospective teachers' awareness can be raised.
4. For different departments in state and foundation universities, usage of social networking can be monitored with studies made at regular intervals. Thus, differences may be learned in a healthy manner and activities can be arranged for different groups.

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