

Do Teacher Characteristics Matter for Facebook Use? Evidence from Classroom Teachers in Turkey

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Abstract: The purpose of this study is to examine classroom teachers' Facebook use in terms of their individual characteristics such as gender, age, teaching experience, computer use, and internet use. Data were collected from 295 classroom teachers who have an active Facebook account through an online questionnaire. Findings showed that classroom teachers' intensity of Facebook use was associated with age, years of teaching experience, and the amount of computer and internet use. However, there was no difference in the intensity of Facebook use between male and female classroom teachers. Implications, limitations, and further studies were discussed.

Key Words: classroom teachers, Facebook use, teacher characteristics

INTRODUCTION

Over the past decade, Facebook has become one of the most prominent social network sites. Originally founded for Harvard University students in 2004, Facebook has been available to general public since 2006 and attracted millions of online users (Boyd and Ellison, 2008; Hew, 2011). Facebook is reported to have 727 million daily active users on average in September 2013 (Facebook, 2013). Research conducted by Hampton, Goulet, Rainie, and Purcell (2011) found that 92% of SNS users are on Facebook, and slightly more than half of them use it daily. It is primarily used for friend functions, personal information, practical information, regulatory functions, groups, events, and miscellaneous features (i.e. liking, friend details; Bumgarner, 2007). Recent studies indicate that primary motives of Facebook users are relationship maintenance and communication with friends (Mazman and Usluel, 2011; Pempek, Yermolayeva, and Calvert, 2009; Sheldon, 2008; Smock, Ellison, Lampe, and Wohn, 2011).

Facebook also appears to be a popular social network site among teachers. The report, 2012 Survey of K-12 Educators on Social Networking, Online Communities, and Web 2.0 Tools, conducted by MMS Education (2012), shows that Facebook is the dominant social network site among teachers with 85% being its member. Of teachers with Facebook account, 80% checks it weekly or more frequently. Teachers find the use of social networks sites valuable, mostly, for communication with family and friends, sharing information and resources, and connection with professional colleagues (MMS Education, 2012).

Although Facebook is designed for social engagement, teachers can use it for educational purposes in and out of the classroom. In a review of research on Facebook as an educational environment by Aydin (2012), it is manifested that the use of Facebook in education has a positive impact on classroom practices, student involvement, socialization, and affective states such as motivation, self-efficacy, anxiety, and perceptions. In addition, recent studies indicate that Facebook allows teachers to manage classroom communication, provide help, improve the relationship with and knowledge of their students, and give test and assignment reminders (Asterhan, Rosenberg, Schwarz, and Solomon, 2013; Fewkes and McCabe, 2012). Due to the minimum age requirement on Facebook (13 years old), it seems to be limited for classroom teachers to use Facebook for educational purposes. Nonetheless, Weeden, Cooke, and McVey (2013) found that students as young as 9 years old begin to participate in social network sites by misinterpreting their ages on the sites. In addition, according to Turkish Statistical Institute (2013), in Turkey, children as young as 8 years old begin to use computers and 53.5% uses them to join social networks.

Facebook also allows teachers to engage in informal professional development. Recent research shows that Facebook provides effective opportunity for teachers to support their

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knowledge development (Rutherford, 2010; Staudt, Clair, and Martinez, 2013). Rutherford (2010) indicated that Facebook affords informal professional development environment that is “participant driven, practical, collaborative, and available 24 hours a day from any Internet connected location” (p. 69).

Given the current popularity and functionality of Facebook for teachers, it can be considered as a valuable tool to support education and professional development. Teachers’ Facebook use is likely to be influenced by their characteristics such as gender, age, years of teaching experience, and internet use since previous research found that these characteristics have an impact on teachers’ use of information and communication technologies (Bang and Luft, 2012; Inan and Lowther, 2010; Russell, Babell, O’Dwyer, and O’Connor, 2003; Tezci, 2009; van Braak, Tondeur, and Valcke, 2004; Wozney, Venkatesh, and Abrami, 2006; Yuen and Ma, 2002). It is important to understand individual differences related to teachers’ Facebook use to help them to get benefits of Facebook in education and professional development. Based on specific characteristics of teachers, several interventions can be implemented to facilitate effective and appropriate use of Facebook. Little research has been conducted on teachers’ use of Facebook (Hew, 2011), particularly in Turkey (Aydin, 2012).

In a multi-method study on teachers’ Facebook use presented elsewhere, the researchers investigated Facebook habits, intensity, self-disclosure, privacy settings, and motives of primary and secondary school teachers in Turkey. As a follow-up of this study, the current research focused on relationships between teachers’ characteristics and the use of Facebook by classroom teachers.

User characteristics and Facebook use

The use of Facebook differs with regards to user characteristics such as gender, age, and the amount of internet use. Gender is one of the important predictors of use of social network sites. Female users tend to use social networks sites more than male users (Hargittai, 2008; Joinson, 2008; Sheldon, 2008; Tufekci, 2008). Gender also has a significant influence on users’ motivations to use Facebook (Mazman and Usluel, 2011; Muscanell and Guadagno, 2012; Sheldon, 2008). Nonetheless, there are still some studies which found no influence of gender on Facebook usage (Ellison, Steinfield, and Lampe, 2007; Neely, 2011).

Although Facebook initially is intended for university-aged students, there has been an increase in the number of users over 25 years of age recently (Aydin, 2012; Wilson, Gosling, and Graham, 2012). Younger users tend to use Facebook more (Archambault and Grudin, 2012; Hargittai, 2008; Joinson, 2008; Neely, 2011). Age also has an influence on users’ motives to use Facebook (Sheldon, 2008). Younger users tend to go Facebook more for relationship maintenance and passing time.

Using Facebook leads users to spend more time on computer or internet. Consistently, Hargittai (2008) found that Facebook usage is associated with more internet use. In addition, the use of Facebook makes contributions to internet addiction (Kittinger, Correia, and Irons, 2012).

Purpose of the Study

The purpose of the study is to investigate classroom teachers’ Facebook usage in terms of gender, age, teaching experience, computer use, and internet use. In this study, teachers’ Facebook use was measured by Facebook intensity, “a better measure of Facebook usage than frequency or duration indices” (Ellison et al., 2007, p. 1150). It focuses on the extent of users’ active engagement in Facebook activities and users’ attitudinal responses to Facebook. This study mainly helped to understand teachers’ characteristics associated with their Facebook usage. It examined the following research questions:

RQ1. What is the intensity of Facebook use by classroom teachers?

RQ2. Is there a statistically significant difference in intensity of Facebook use between male and female classroom teachers?

RQ3. Is there a statistically significant correlation between intensity of Facebook use and age?

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- RQ4.** Is there a statistically significant correlation between intensity of Facebook use and years of teaching experience?
- RQ5.** Is there a statistically significant difference in intensity of Facebook use in terms of the amount of computer use?
- RQ6.** Is there a statistically significant difference in intensity of Facebook use in terms of the amount of internet use?

METHOD

Participants

Teachers were invited to participate into the study through Facebook groups, open online forums, Facebook messages, e-mails, and forwarded invitations by teachers. The participants consisted of 295 classroom teachers with an active Facebook account, from 67 out of 81 provinces of Turkey. They had mean age of 33.19 (SD = 6.69) and mean teaching experience of 10.29 years (SD = 6.28). Most (71.2%) of them were members of Facebook for at least 3 years. The other characteristics of the participants are illustrated in Table 1.

Table 1. *Characteristics of the Participants*

Characteristics	n	%
Gender		
Female	212	71.9
Male	83	28.1
School Type		
Public	290	98.3
Private	5	1.7
The amount of computer use		
Less than 1 hour	62	21.0
1-2 hours	84	28.5
2-3 hours	75	25.4
More than 3 hours	74	25.1
The amount of internet use		
Less than 1 hour	64	21.7
1-2 hours	91	30.8
2-3 hours	74	25.1
More than 3 hours	66	22.4

Note. *N*=295

Instrumentation

In the current study, data were collected by means of an online questionnaire. In the questionnaire, teachers' Facebook usage was measured with the "Facebook Intensity Scale", developed by Ellison et al. (2007). It contains two self-reported questions to measure the number of Facebook friends and the amount of time spent on Facebook and six attitudinal items focusing on emotional connection to Facebook and integration of Facebook into daily activities. The attitudinal items use a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were translated from English to Turkish by the first researcher. Then, they were reviewed by a bilingual expert in the field of instructional technology. Based on comments, the items were revised prior to administration. Ellison et al. (2007) found internal consistency of the scale high, Cronbach's alpha = .83. In the current study, it was also high, Cronbach's alpha = .81 (Hair, Black, Babin, Anderson, and Tatham, 2006). In addition, the questionnaire contained a section collecting participants' demographics such as gender, age, years of teaching experience, and the amount of average time spent on computer and internet in a day.

Data Collection and Analysis

An online questionnaire was created through the Google Form. All of the teachers were invited to participate into this study voluntarily. They completed the questionnaire anonymously.

In the analysis of data, for each teacher, Facebook intensity score was computed by taking average of standardized scores of the number of Facebook friends, the number of minutes spent on Facebook, and six attitudinal items. Descriptive statistics were presented using mean, standard deviation, frequencies, and valid percentages. An independent sample t-test was employed to compare Facebook usage between male and female teachers. In order to investigate the relationship of Facebook usage with age and years of teaching experience, Spearman's correlation coefficients were calculated due to violation of normality assumption of age and teaching experience variables. The impact of computer and internet use on Facebook intensity was explored using a one-way ANOVA. Due to violation of assumption of homogeneity of variance, the Welch test was employed in ANOVA test. Post-hoc comparisons were conducted using the Games-Howell test, which is suggested to use in the event of unequal variances (Field, 2009). In the analysis, the level of significance was .05.

FINDINGS

RQ1: What is the intensity of Facebook use by classroom teachers?

Classroom teachers reported having between 151 and 200 Facebook friends and spending between 10 and 30 minutes a day on Facebook in average. Teachers did not mostly agree with the statements regarding emotional connection to Facebook and its integration into daily activities. Table 2 presents descriptive statistics of the items on the Facebook Intensity Scale.

Table 2. *Descriptive Statistics of the Items on the Facebook Intensity Scale*

	Mean	S.D.
Facebook Intensity	.000 ¹	.69
Total number of Facebook friends 0 = 10 or less, 1 = 11-50, 2 = 51-100, 3 = 101-150, 4 = 151-200, 5 = 201-250, 6 = 251-300, 7 = 301 – 400, 8 = more than 400	4.61	2.16
Total number of minutes approximately spent on Facebook per day 0 = less than 10, 1 = 10-30, 2 = 31-60, 3 = 1-2 hours, 4 = 2-3 hours, 5 = more than 3 hours	1.89	1.33
Facebook is part of my everyday activity.	3.14	1.18
I am proud to tell people I'm on Facebook.	2.37	1.09
Facebook has become part of my daily routine.	2.93	1.18
I feel out of touch when I haven't logged onto Facebook for a while.	2.51	1.22
I feel I am part of the Facebook community.	2.74	1.18
I would be sorry if Facebook shut down.	2.87	1.33

Note. $N=295$

¹ Mean of standardized item scores.

RQ2: Is there a statistically significant difference in intensity of Facebook use between male and female classroom teachers?

An independent sample t-test was conducted to compare intensity of Facebook use for female and male classroom teachers. Table 3 presents the results of t-test for intensity of Facebook use by gender. There was no significant difference in intensity of Facebook use for male ($M = -.020$, $SD = .98$) and female classroom teachers ($M = .008$, $SD = .89$; $t(293) = .238$, $p = .81$).

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Table 3. Result of *t*-test for Intensity of Facebook Use by Gender

	Male			Female			t (293)
	N	M	SD	n	M	SD	
Intensity of Facebook use	83	-.020	.98	212	.008	.89	.238

* $p < .05$.

RQ3: Is there a statistically significant correlation between intensity of Facebook use and age?

A Spearman's correlation coefficient was calculated to examine the relationship between intensity of Facebook use and age of classroom teachers. There was a small, negative correlation between two variables, $r_s = -.14$, $n = 295$, $p = .015$, with high intensity of Facebook usage associated with young classroom teachers.

RQ4: Is there a statistically significant correlation between intensity of Facebook use and years of teaching experience?

A Spearman's correlation coefficient was calculated to determine the relationship between intensity of Facebook use and years of teaching experience. There was a small, negative correlation between two variables, $r_s = -.15$, $n = 295$, $p = .008$. Classroom teachers with more teaching experience tend to use Facebook less intensively.

RQ5: Is there a statistically significant difference in intensity of Facebook use in terms of the amount of computer use?

A one-way between groups ANOVA was conducted to examine the impact of classroom teachers' amount of computer use on intensity of Facebook use. Table 4 presents the results of one-way analysis of variance. There were four groups of participants according to the amount of computer use (Group 1: 1 hour or less; Group 2: 1-2 hours; Group 3: 2-3 hours; Group 4: 3 hours or more). There was a statistically significant difference in intensity of Facebook use for the four groups, *Welch's F* (3, 158.59) = 5.20, $p = .002$, *eta squared* = .055. Post-hoc comparisons using the Games-Howell procedure showed that the mean of intensity of Facebook use for Group 1 ($M = -.24$, $SD = .57$) was significantly different from Group 4 ($M = .24$, $SD = .84$), but did not differ significantly from either Group 2 ($M = -.02$, $SD = .64$) or Group 3 ($M = -.02$, $SD = .60$). Group 2 and Group 3 were not significantly different from any other groups.

Table 1. One-way Analysis of Variance for Effects of Computer Use on Intensity of Facebook Use

Variable	Computer use				<i>Welch's F</i> (3, 158.59)
	1 hour or less	1-2 hours	2-3 hours	3 hours or more	
Intensity of Facebook use	-.24 (.57)	-.02 (.64)	-.02 (.60)	.24 (.84)	5.20*

Note. * $p < .05$. Standard deviations appear in parentheses below means.

RQ6: Is there a statistically significant difference in intensity of Facebook use in terms of the amount of internet use?

A one-way between groups ANOVA was conducted to investigate the impact of classroom teachers' amount of internet use on Facebook intensity. Table 5 presents the results of one-way analysis of variance for effects of internet use on intensity of Facebook use. Similar to computer use, there were four groups of participants according to the amount of internet use (Group 1: 1 hour or less; Group 2: 1-2 hours; Group 3: 2-3 hours; Group 4: 3 hours or more). There was a

statistically significant difference in intensity of Facebook use for the four groups, *Welch's F* (3, 155.38) = 7.34, $p = .000$, *eta squared* = .084. Post-hoc comparisons using the Games-Howell procedure indicated that the mean of Facebook intensity score for Group 4 ($M = .35$, $SD = .82$) was significantly different from the other groups. Group 1 ($M = -.22$, $SD = .55$) did not differ significantly from Group 2 ($M = -.07$, $SD = .64$) and Group 3 ($M = -.03$, $SD = .62$). Group 2 did not significantly differ from Group 3.

Table 2. *One-way Analysis of Variance for Effects of Internet Use on Intensity of Facebook Use*

Variable	Internet use				<i>Welch's F</i> (3, 155.38)
	1 hour or less	1-2 hours	2-3 hours	3 hours or more	
Intensity of Facebook use	-.22 (.55)	-.07 (.64)	-.03 (.62)	.35 (.82)	7.34*

Note. * $p < .05$. Standard deviations appear in parentheses below means.

DISCUSSION

The purpose of this study is to investigate classroom teachers' Facebook usage in terms of their characteristics such as gender, age, teaching experience, computer use, and internet use. Firstly, this study showed that classroom teachers were not likely to have highly intense Facebook usage. Despite having a number of Facebook friends, they do not spend much time on it daily, have emotional connection to it, and integrate it much into their life. Since the most valuable purposes for which teachers use social network sites include connection with family, friends, and professional colleagues (MMS Education, 2012), classroom teachers are likely to have a number of Facebook friends, including family members, friends, and professional colleagues. However, as showed in the findings, this does not ensure that they are daily active user of Facebook and have high level of emotional connectedness to and attitude toward Facebook.

Secondly, the findings of the study indicated that there was not a significant difference in Facebook intensity between male and female classroom teachers. This means that there was not a gender gap in teachers' intensity of Facebook use. This finding is consistent with the finding from Neely (2011) that there is no significant difference in Facebook intensity for male and female public school educators. Gender does not make a difference in general social media usage (Rosen, Whaling, Carrier, Cheever, and Rokkum, 2013). However, it is likely to be a difference in Facebook behaviors and motives between male and female classroom teachers. Previous studies found that females are more likely to have private profiles (Lewis, Kaufman, and Christakis, 2008), self-disclose (Sheldon, 2013), and maintain relationships on Facebook (Mazman and Usluel, 2011; Sheldon, 2008).

Thirdly, this study showed that age and years of teaching experience had negative relationship with classroom teachers' Facebook use. Young and novice classroom teachers were associated with high intensity of Facebook use. Consistent with this finding, Neely (2011) found a significant inverse relationship between age and Facebook intensity of public school educators. In general, age and teaching experience has a negative influence on the technology use of teachers because old and veteran teachers are likely to have less computer proficiency (Inan and Lowther, 2010). Therefore, they may be more reluctant to use Facebook.

Lastly, this study showed that classroom teachers' use of Facebook is influenced by their amount of computer and internet use. Classroom teachers spending much time on computers (i.e. 3 hours or more) had significantly higher intensive Facebook use than those spending less time on computers (i.e. 1 hour or less). Similarly, classroom teachers spending much time on internet (i.e. 3 hours or more) had significantly higher level of intensity of Facebook use than those not spending much time on internet (i.e. less than 3 hours). Not surprisingly, using Facebook could lead people to invest more time in using internet, thereby

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computers (Hargittai, 2008). However, rather than the amount of computer and internet use, how teachers use computers or internet is more likely to make a difference in their intensity of Facebook use because it has a strong relationship with social capital (Ellison et al., 2007).

In conclusion, this study suggests that classroom teachers' Facebook use is associated with their characteristics such as age, teaching experience, computer use, and internet use. Gender of classroom teachers does not play a significant role in their Facebook usage. Young and novice teachers who use computers or internet much are more likely to have intensive Facebook use. Therefore, they should be supported to foster effective and appropriate use of Facebook for education and professional development. In-service training programs, guidelines, and online supports on educational and professional Facebook use could be offered for these teacher Facebook users.

Limitations and Further Studies

This study has some limitations that need to be addressed in future studies. One limitation of the current study is that the findings are limited to Turkish classroom teachers with an active Facebook account. Further studies should be conducted involving other contexts or samples. Moreover, this study focused on only association between teachers' particular characteristics and their Facebook usage. Further studies need to examine how teachers' individual differences relate to their motives to use Facebook, including educational and professional development ones. Also, how teachers' demographics characteristics are associated with their Facebook behaviors (e.g. privacy settings, self-disclosure) should be investigated in further studies

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