

# Is Phubbing a Matter for Educators: A Case for Pre-service and in-service Teachers

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## ABSTRACT

Becoming one of the indispensable tools of our daily life, mobile phones have accelerated the pace of our life by facilitating our business affairs. In addition to the good aspects of these tools reshaping even our habits, they also have various psychological and physiological damages. One of the behaviors for which the cell phone is considered as harmful is phubbing. Phubbing is defined as giving the perception of the individual to his/her mobile phone, not to these people during the communication with other individuals. Considering the increasing use of such technological tools in the classroom, within the scope of phubbing, the status of teachers, one of the important stakeholders of the education environment, is also important. From this point of view, in this study, it was purposed to examine the status of being phubber of pre-service and in-service teachers and their exposure to phubbing in terms of age and gender variables. The study designed in correlational survey method, was conducted with the data collected from 293 people, 46 in-service teachers and 247 pre-service teachers, through the Generic Scale of Phubbing and Generic Scale of Being Phubbed. The independent samples t-Test and Pearson correlation analysis were implemented in the context of the research questions. The results of the analysis indicated that the pre-service teachers are higher in terms of both being a phubber and phubbee than the in-service teachers. In addition to this, it was comprehended that these concepts did not differ in terms of gender and age. On the other hand, it was found out that the behavior of being a phubber tended to increase as getting older. Moreover, it was observed that the participants and the pre-service teachers who were phubber were also exposed to this behavior.

**Keywords:** *phubbing, pre-service teachers, in-service teachers*

## INTRODUCTION

The developments emerging in the communication technologies have incorporated various tools into our lives. Smart phones are the leading tools among these stated tools. Many features such as playing games (Bowman, Jöckel, & Dogruel, 2015), education (Tossell, Kortum, Shepard, Rahmati, & Zhong, 2015), connecting with other people (Do, & Gatica-Perez, 2013; Park, Kee & Valenzuela, 2009) have been effective in making these tools popular. Smart phones, through which we can make all the mentioned features, have become an indispensable part of our lives over time (Oulasvirta, Rattenbury, Ma, & Raita, 2012). In fact, even in some countries, mobile sidewalks are designed to prevent the people, who do not want to break while walking on their phones, from harming themselves and their surroundings.

In addition to the good aspects of these smartphones listed above, they also have several psychological and physiological damages (Ha, Chin, Park, Ryu, & Yu, 2008; Lee, Chang, Lin, & Cheng, 2014). In general, it is

observed that the people who are interested in their phones have greatly cut off their communication with other people. This situation is accepted as rudeness in many countries (Rothwell, 2010). In addition, it was experimentally proved that messaging in classes is harmful for the student (Rosen, Lim, Carrier, & Cheever, 2011). One of the behaviors in which the phone is considered as harmful is phubbing. Phubbing is defined as giving the perception of the individual to his/her phone, not to these people during the communication with other individuals (Karadag et al., 2016). The origin of the word confirms this definition. According to the definition given in the MacGuarie Dictionary, phubbing was obtained by combining the words phone and snubbing. This current problem that arises during the communication between people is considered as an inconsistent behavior according to the traditional etiquette and rules (Kadylak et al., 2018). Furthermore, those who are exposed to this behavior characterize the concept as disrespectfulness (Aagaard, 2019). Beyond that, it is seen that phubbing harms relationships in several contexts and can lead to problems that may cause depression in individuals (Wang et al., 2017; Al-Saggaf and O'Donnel, 2019). This has even been proven by the experimental studies (Abeele, Antheunis, & Schouten, 2016; Chotpitayasunondh & Douglas, 2018).

Phubbing is a subject that needs to be studied further owing to its dynamic structure (Chotpitayasunondh & Douglas, 2016; 2018; Karadağ et al. 2015). In this context, the causes of the concept (Kardağ et al., 2016), its effects in social interaction (Chotpitayasunondh & Douglas, 2018), determinants (Karadag et al. 2015), the psychological antecedents and consequences (Chotpitayasunondh & Douglas, 2016) its effects on partner relationship (Misra, Cheng, Genevie, & Yuan, 2014; Roberts & David, 2016) were researched in several studies. In addition, it is important to address the issue in different age groups, and the importance of including non-student age groups in the research is emphasized (Chotpitayasunondh & Douglas, 2016; Karadağ et al., 2015). Besides, there is a relationship between being a phubbee and a phubber (Chotpitayasunondh & Douglas, 2016). Considering the increasing use of technological tools in the classroom (Good & Lavigne, 2017), the status within the scope of phubbing of the teachers, one of the important stakeholders of this environment, are also important. Moreover, it is mentioned in the literature that it would be beneficial to carry out some other studies including different sample groups (Orhan Göksün, 2019). In this context, the purpose of this study is to examine the status of being phubber and phubbee of pre-service and in-service teachers in terms of age and gender variables

## METHOD

This research, which aims to examine the status of being phubber and phubbee of pre-service and in-service teachers in the context of several variables, was designed in the correlation type relational scanning model. Scanning models are the research approaches aiming to describe a situation that exists in the past or still as it exists. In these models, the individual or object under research is tried to be defined within its own conditions and as it is (Karasar, 1999). Correlational survey models, on the other hand, are the research models that purpose to determine the presence of coexistent change, degree, or both between two or more variables (Karasar, 1999). In particular, the correlational studies include the studies that aim to reveal the relationships between variables by using relational statistics (Balci, 2001).

The relationship between the ages and genders of pre-service and in-service teachers and being phubber and being exposed to phubbing was sought in the research. Determining whether the ages and genders of pre-service and in-service teachers affect their status of being phubber and their to phubbing, and detecting how it affects if it affects through the correlational survey method, the current situation is examined, and thus a judgment is reached by obtaining detailed information about the subject.

### Population and Sampling

Convenience sampling method was chosen in order to identify the participants in this research. Convenience sampling is created by selecting the appropriate participants for the data to be used in the research when it is difficult to use other probability-based sampling methods. Although it is not possible to represent the entire population because the choice depends on the researcher, the participants are suitable for the purpose of the research (Fraenkel, Wallen and Hyun, 2012). In this context, the students studying at

Pamukkale University Faculty of Education in Denizli province were reached for pre-service teachers. The teachers serving in different schools of the same province were chosen for in-service teachers. The research was carried out on 293 people, 46 in-service teachers and 247 pre-service teachers. Distribution of the participants by gender is presented in Table 1.

**Table 1. Distribution of in-service and pre-service teachers in the study by gender**

	Gender		Total
	Female	Male	
	N	N	N
In-service teacher	29	17	46
Pre-service teacher	159	88	247
Total	188	105	293

According to Table 1, the study was conducted on 293 participants, 188 (64.16%) females and 105 (35.84%) males. The majority of the participants are female pre-service teacher (54.27%).

**Data Collection Instrument**

In order to collect research data, several scales on phubbing were scanned in the literature (Chotpitayasunondh and Douglas, 2016; 2018, Karadag et al.; 2015; McDaniel & Coyne, 2016; Roberts & David, 2016). In this study, the scales of being a Generic Scale of Phubbing and the Generic Scale of Being Phubbed by Chotpitayasunondh and Douglas (2018) were chosen due to the suitability for the target audience and including the status of being a phubber and exposure to general phubbing. Whereas the Generic Scale of Phubbing is composed of 15 items and 4 factors, where the Generic Scale of Being Phubbed consists of 22 items and 3 factors. The Cronbach Alpha internal consistency coefficients of these scales are respectively 0.93 and 0.96. The adaptation of the scales in question by Orhan Göksun (2019) was used in the study owing to the suitability for the language of target group. There was no change in item and factor structures after translation. In addition, the Cronbach Alpha internal consistency coefficient was calculated as 0.86 for the Generic Scale of Phubbing and as 0.87 for the Generic Scale of Being Phubbed. In the current study, these values were found respectively as 0.89 and 0.92. These results show that both the original form of the scales and the final form after translation have a high level of internal consistency (DeVellis, 2012; Kline, 2000). The items in these instruments were transferred to the online environment in a survey format. In the survey, the participants were not asked for the information regarding their personal data, which could potentially reveal their information, but they were only asked to choose their gender and the status of being an in-service or pre-service teacher.

**Data Collection and Analysis**

The in-service and pre-service teachers who make up the sampling of the study were selected through the convenience sampling method. The institution where the researchers work was used to collect data from pre-service teachers, and the secondary schools connected to MoNE were used to collect data from the in-service teachers. The research data were collected online between 18 October 2019 and 28 December 2019, on a voluntary basis from in-service and pre-service teachers at the institutions and schools mentioned above.

In the section of the data collection instrument where it is tried to determine being a phubber and exposure to phubbing, 1 point was given to "Never" option, 2 points to "Rarely" option, 3 points to "Occasionally" option, 4 points to "Sometimes" option, 5 points to "Often" option, 6 points to "Generally" option, and finally 7 points to "Always" option. Before proceeding with the analysis process, it was examined whether the data set was normally distributed, and the parametric statistical test methods were applied since the distribution was normal. In order to determine the status of the participants to be phubber and to be exposed to phubbing, the total scores of the questions constituting each situation were calculated, and in addition to this, the percentage, frequency, and standard deviation values were presented. The statistical analyzes made depending on the research questions are provided in Table 2.

**Table 2. The statistical analyzes made depending on the research questions**

Research Question	Type of Analysis
Do the status of the participants to be a phubbee and a phubber differ between in-service and pre-service teachers?	Independent Samples t-Test
Do the status of the participants to be exposed to phubbing and to be a phubber differ by gender?	
Do the status of the pre-service teachers to be a phubbee and to be a phubber differ across gender?	
Do the status of the in-service teachers to be exposed to phubbing and to be a phubber differ by gender?	
Is there a relationship between the ages of the participants and their status of being phubber and phubbee?	Pearson Coefficient of Correlation
Is there a correlation between the ages of the pre-service teachers and their status of being phubber and phubbee?	
Is there a relationship between the ages of the in-service teachers and their status of being phubber and phubbee?	

As can be seen from the table, independent samples t-Test was implemented for the first four research questions in which the difference was questioned, and Pearson correlation analysis was performed for the last three research questions in which the relationship was examined. SPSS (Statistical Package for the Social Sciences) 15.0 software was used in these analyzes. The significance level was taken as .05 for the statistical analysis.

**Limitations**

This study is limited to the research design, the participants, the data collection instrument used in the study, and the responses of the participants to this data collection instrument.

**FINDINGS**

The findings obtained upon the analysis made within the scope of the research questions are included under three main titles. Firstly, the title of the findings, where the pre-service or in-service teacher participants are examined as being a phubber and phubbee is presented. Subsequently, the second title, in which the status of being a phubber and a phubbee of the participants are examined in terms of gender, is provided. Finally, there is a title including the findings regarding the relationship between exposure to phubbing and being a phubber and age. In the last two titles, the required analyzes were initially carried out for all the participants and then according to their status as being in-service teachers or pre-service teachers.

**Findings of being a phubber and phubbee according to the status of the participants**

Independent samples t-Test was conducted to determine whether the status of being a phubber and a phubbee of the participants differed between in-service and pre-service teachers. The findings resulting from these tests are presented in Table 3 and Table 4.

**Table 3. t-Test results of the participants regarding being a phubber**

	n	$\bar{x}$	Ss	Sd	t	p <
Pre-service teacher	247	43.54	13.87	291	2.336	.05
In-service teacher	46	38.39	12.96			

The status of being phubber of the participants varies significantly depending on whether they are pre-service or in-service teachers ( $t_{(291)} = 2.336, p < .05$ ). When Table 1 is examined, it is understood that the mentioned difference is in favor of pre-service teachers ( $\bar{x}_{\text{Pre-service teacher}} > \bar{x}_{\text{In-service teacher}}$ ), in other words, the pre-service teachers are more likely to be phubber than the in-service teachers.

**Table 4. t-Test results of the participants regarding being a phubbee**

	n	$\bar{x}$	Ss	Sd	t	p <
Pre-service teacher	247	79.65	20.04	291	2.110	.05
In-service teacher	46	72.89	19.33			

When the exposure of the participants to phubbing was examined according to whether they were pre-service or in-service teachers, it was found that there was a significant difference in this context ( $t_{(291)} = 2.110, p < .05$ ). As can be seen in Table 4, the pre-service teachers are more exposed to phubbing than the in-service teachers ( $\bar{x}_{\text{Pre-service teacher}} > \bar{x}_{\text{In-service teacher}}$ ). Both this finding and the finding related to being a phubber may have resulted from the age difference between the two groups.

**Findings related to the status of being a phubber and a phubbee in terms of gender and status**

The independent samples t-Test was applied for to determine whether the status of being a phubber and being exposed to phubbing of the pre-service and in-service teachers who participated in the research differed by gender. The findings related to this test are as given in Table 5 and Table 6.

**Table 5. The results of t-Tests in terms of gender of the participants regarding being a phubber**

	n	$\bar{x}$	Ss	Sd	t	p
Female	188	43.01	13.20	291	.458	.648
Male	105	42.24	14.98			

As can be seen in Table 5, the status of the participants to be phubber does not differ according to gender. Nevertheless, it can be stated that females are more likely to be phubber than males ( $\bar{x}_{\text{Female}} > \bar{x}_{\text{Male}}$ ).

**Table 6. Results of t-Test of the participants regarding being a phubbee in terms of gender**

	n	$\bar{x}$	Ss	Sd	t	p
Female	188	76.96	18.25	291	-1.751	.082
Male	105	81.49	22.74			

The status of being exposed to phubbing of the participants does not differ according to gender as given in Table 6. On the other hand, contrary to the findings of being a phubber, it is determined that the males are more likely to be a phubbee than the females ( $\bar{x}_{\text{Male}} > \bar{x}_{\text{Female}}$ ).

The t-Test was used for the independent samples in order to determine the status of pre-service teachers participating in the study to be phubber and to be exposed to phubbing by gender. Findings related to this test are presented in Table 7 and Table 8.

**Table 7. t-Test results of pre-service teachers about being a phubber**

	n	$\bar{x}$	Ss	Sd	t	p
Female	159	44.30	13.32	245	1.157	.248
Male	88	42.17	14.78			

The status of pre-service teachers to be a phubber does not differ by gender. However, as can be seen in Table 7, it can be expressed that females are more likely to be phubber than males ( $\bar{x}_{\text{Female}} > \bar{x}_{\text{Male}}$ ).

**Table 8. t-Test results of pre-service teachers related to being exposed to phubbing**

	n	$\bar{x}$	Ss	Sd	t	p
Female	159	77.85	18.25	245	-1.906	.058
Male	88	82.90	22.69			

As given in Table 8, there is no significant difference between female pre-service teachers and male pre-service teachers in the context of being a phubbee. On the other hand, contrary to the findings of being a phubber, it is determined that males are more likely to be exposed to phubbing than females ( $\bar{x}_{\text{Male}} > \bar{x}_{\text{Female}}$ ).

Independent samples t-Test was also used to determine whether the status of in-service teachers to be phubber and a phubbee differed between males and females. The findings resulting from this test are given in Table 9 and Table 10.

**Table 9. t-Test results of in-service teachers about being a phubber**

	n	$\bar{x}$	Ss	Sd	t	p
Female	29	35.93	9.92	44	-1.516	.143
Male	17	42.59	16.44			

Parallel to other findings, the status of in-service teachers to be phubber does not differ by gender. However, unlike the pre-service teachers, as can be seen in Table 9, it can be stated that males are more likely to be phubber than females ( $\bar{x}_{\text{Male}} > \bar{x}_{\text{Female}}$ ).

**Table 10. t-Test results of the in-service teachers regarding exposure to phubbing**

	n	$\bar{x}$	Ss	Sd	t	p
Female	29	72.10	17.76	44	-.357	.722
Male	17	74.23	22.28			

Independent samples t-Test results are presented in Table 10 in order to examine the changes in the context of exposure of in-service teachers to phubbing in terms of gender. Accordingly, no significant difference could be determined between both genders. Similar to the findings of being a phubber, male in-service teachers were found to be more phubber than the female in-service teachers ( $\bar{x}_{\text{Male}} > \bar{x}_{\text{Female}}$ ).

#### Findings regarding the relationship between being a phubbee, being a phubber and age

Pearson coefficient of correlation was used to analyze the relationship in the context of 3 research questions under this title. Information including the status of all participants for the mentioned analysis is provided in Table 11.

**Table 11. Relationships across being a phubber, being a phubbee and age**

n=293	Being a phubber	Being a phubbee
Age	-,125*	-,106
Being a phubber	-	,353**

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

As can be understood from Table 11, a significant relationship was determined between being a phubber and being exposed to phubbing ( $p < .01$ ). It is seen that this relationship is positive and moderate ( $r = .353$ ) (Cohen, 1977). It can be stated that this situation arises from the fact that as the time spent on mobile phones increases, it causes both phubbing actions and exposure to it. In addition, a significant relationship was determined between age and being a phubber ( $p < .05$ ). The relationship in question is negative and low ( $r = -.125$ ). This finding is thought to occur due to the decrease in the usage time of mobile phones as the age increases. On the other hand, no significant relationship was found between being a phubbee and age ( $p = .071$ ).

Data about the analysis carried out so as to determine the relationship between the ages of pre-service teachers and their status of being phubber, being exposed to phubbing is shown in Table 12.

**Table 12.** Correlations between the status of being a phubber, being a phubbee and age of pre-service teachers

n=247	Being a phubber	Being a phubbee
Age	-0,76	,015
Being a phubber	-	,360**

\*\*Correlation is significant at the 0.01 level (2-tailed).

As seen in Table 12, a significant relationship was determined between being a phubber and being exposed to phubbing ( $p < .01$ ). According to Cohen (1977), this relationship is positive and moderate ( $r = .360$ ). However, there was no significant relationship between age and being a phubber ( $p = .234$ ). Similarly, there is no significant relationship between age and being exposed to phubbing ( $p = .811$ ).

Pearson coefficient of correlation was used in order to determine the relationship between the age of the in-service teachers and their status of being phubber and being exposed to phubbing. According to these analyzes, a significant relation could not be determined between age and being a phubber ( $p = .283$ ), age and being a phubbee ( $p = .943$ ), and being a phubber and being exposed to phubbing ( $p = .124$ ).

## CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

It was purposed in this study to examine the status of pre-service and in-service teachers to be phubber and be exposed to phubbing in several contexts. In line with this purpose, the differences and relationship of the 293 participants in the relevant cases were examined according to gender and age variables. It is thought that the findings obtained from the research will contribute to future studies on phubbing involving pre-service and in-service teachers.

The research findings indicate that there is a difference between pre-service and in-service teachers in terms of both being a phubber and a phubbee. In this difference, which was found to be significant for both cases, it was determined that pre-service teachers were more likely to be phubber and at the same time to be exposed to the concept. It is thought that this situation may have been caused by the age difference between the two groups. However, it is observed that the finding in question does not correspond to the findings of the study in the literature, which cannot find the difference of the concept in terms of age (Cizmecı, 2017). The absence of a difference in the context of age is explained by the fact that the concept is becoming more common in every age group and socially accepted (Chotpitayasunondh & Douglas, 2016). It can also be expressed that the finding, which has become more interesting in this context, may be related to the decrease in the use of mobile phones by age.

The findings obtained in the study revealed that both participant groups, pre-service and in-service teachers, were not different in terms of being a phubber and being exposed to phubbing by gender and age. This situation coincides with the results of several studies in the literature (Guazzini, Duradoni, Capelli & Meringolo, 2019; Parmaksız, 2019). On the other hand, although the difference was not significant, it was found that females were more likely to be phubber in the participants and especially in pre-service teachers. This finding is also in line with the literature (Balta, Emirtekin, Kircaburun, & Griffiths, 2018; Cizmecı, 2017; Karadağ et al. 2015). According to Chotpitayasunondh and Douglas (2016), females are more exposed to phubbing. It is stated that the reason for this situation is that the females use their phones more for social communication purposes than the males do. Contrary to that specification, in this study, it was determined that males were more likely to be a phubbee than the females in the participants. It is clear that this finding is quite interesting considering the studies in the literature, where there is no difference in terms of gender or in favor of females. Thus, it can be said that there is a need for studies that will make it possible to investigate the cause of the situation in question.

A significant relationship was found between phubbing behaviors and exposure to phubbing for all

participants and pre-service teachers in the study. According to the literature, those who do phubbing also undergo this action (Chotpitayasunondh & Douglas, 2016). These people see phubbing around them more, and over time, they regard the concept as a socially normal event (Ross, 1977). While phubbing is considered an unpleasant action, those who are exposed to it react in retaliation (Falk & Fischbacher, 2006; Keysar et al., 2008). Moreover, it is stated that this has happened even though they did it with empathy with the other person (Karadağ et al. 2015). In this context, it is seen that the results of the study overlap with the literature. Contrary to this expected result, no relationship was found between phubbing and being a phubbee for in-service teachers. In addition, no relationship was found between age and two concepts in this group. It is thought that the situation in question is caused by both the professionalism and age range of the participant group. On the other hand, no relationship was found between age and phubbing for pre-service teachers. This situation can be said to be experienced due to the cluster of pre-service teachers in a narrow age range. Similarly, in the overall context of the participants, no significant relationship was found between being exposed to phubbing and age. However, contrary to these findings, an interesting relationship between age and being a phubber emerged. Accordingly, as the participant age increases, the status of being a phubber decrease. This situation is thought to arise from the wide age group of participants. In support of the previous findings, it was determined that the in-service teachers in the group with a high age range were at a lower level than the pre-service teachers in the context of phubbing. Although the finding in question is not significant in the literature, it can be said that it is compatible with studies indicating that phubbing behavior increases with age (Cizmeci, 2017). In addition to this, it is thought that the situation was also caused by telephone and internet use.

When the results were evaluated in general, it was determined that the pre-service teachers were higher in the concept of phubbing than the in-service teachers in terms of both being phubber and being exposed to phubbing. In addition, phubbing and being exposed to phubbing in any group did not differ in terms of gender and age. In the context of the relationship, significant results were reached between the concepts for the participants and the pre-service teachers. Furthermore, it was concluded that as the age of the participant group increases, the status of being a phubber decrease. The diversity of results indicates the need for more studies in the context of the subject. In this way, the generalizability of the results can be increased, and it will be possible to explain the reasons for interesting findings. In this context, the following studies can be carried out:

- The number of in-service teachers involved in the current study remained at a certain level. Wider participant groups can be used in further researches.
- Pre-service teachers studying in different Faculty of Educations can be included.
- The status of in-service teachers living in different cultures in social and economic context can be examined.
- Data can be collected through focus group discussion, a one-on-one interview, and open-ended questions, where qualitative data can be collected to explain the results obtained from quantitative data, which are different and interesting in the related literature.
- The research was designed as a survey method. Experimental environments in which experimental designs can be applied can be designed in further studies.
- Phubbing can be examined in these environments by designing computer-aided teaching environments so as to define the effect of the determined situations on learning environments.

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