

# Online Learning Readiness, Phubbing and Sofalizing Levels of Pre-Service Teachers amidst Pandemic

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## Abstract

*With the effect of the pandemic, online learning has gained importance. In addition, due to restrictions, individuals' behavior with digital tools has begun to change. Thus, the present study examines online learning readiness, phubbing, and sofalizing behavior in pre-service teachers and the correlations between these variables in a completely online instruction environment. A correlational design was adopted in the study. The study was carried out with 130 pre-service teachers. The data were collected with the E-Learning Readiness Scale for College Students, the Generic Scale of Phubbing, the Generic Scale of Being Phubbed, and the Sofalizing Scale. The data collection process was conducted at the end of the 2020-2021 academic year fall semester. The study findings demonstrated that the readiness of pre-service teachers for online learning readiness was high. However, the findings for phubbing, being phubbed, and sofalizing scales were inversely low. There were no differences between the variables based on gender. There was a difference only in being phubbed scores based on department. In the study, a significant correlation was found between phubbing, being phubbed and sofalizing. However, no correlation was determined between these variables and online learning readiness. It was suggested that the study findings could contribute to future research on online learning readiness, phubbing, and sofalizing variables.*

**Keywords:** Online learning readiness, Phubbing, Sofalizing, COVID-19, Pre-service teachers, Pandemic

## Introduction

Several historical events have changed human needs and lifestyles. Past cases have contributed to the integration of digital devices into human life, including the invention of the wheel and the discovery of electric power. The Covid-19 pandemic, which started in late 2019 as determined by the World Health Organization (2021), was one of these developments. In the pandemic, more than 2 million people lost their lives, and more than 130 million cases were reported (Worldometer, 2021). To curb the spread of the virus, both private and public institutions reverted to online workplaces, except for mandatory cases. Furthermore, people are confined to their homes except for essential needs and limited their social lives. The fact that public spaces, where individuals participate in social life, were open with limited capacity or completely closed contributed significantly to the limitations on social life. Educational institutions mostly adopted distance education as well. Thus, online learning and readiness for online environments became significant issues.

## Review of Literature

### Online Learning Readiness (OLR)

The investigation of the factors that affect online learning (Cukusic et al., 2010) is important in developing strategies and decisions for active learning environments (Kaur & Abas, 2004). Readiness for online learning plays a key

role in this period (Hukle, 2009). Thus, the measurement of OLR and determination of the course of action based on this measurement is of utmost importance in the development of online learning environments (Rohayani et al., 2015). OLR was defined as realizing the personal learning style, self-orientation skills, time-management, adoption of internal motivation sources, and the experiences acquired in this process (Smith et al., 2003). In general, readiness is affected by emotional, social, physical development and communication skills (Wynn, 2002). OLR is a complex concept that involves self-control efficacy, computer-use skill efficacy, and online communication self-efficacy (Hung, 2016; Hung et al., 2010; Keramati et al., 2011). Thus, communication could be affected by social and emotional control (Davis, 2006; Hung et al., 2010). Furthermore, learner skills in online learning environments are also associated with the learner's technological device use skills (Keramati et al., 2011; Schreurs et al., 2008; Selim, 2007; Tang & Lim, 2013). Because in online learning, communication is conducted via information and communication technologies (ICT). The effective use of these devices leads to an efficient process (de Bruyn, 2004). Also, Yu (2018) developed an online readiness model that included four basic components. These components were communication competencies, social competencies with instructor and classmates, and technical competencies. It was reported in the literature that socialization affects OLR, which in turn affects the success of online environments (Joosten & Cusatis, 2020). Furthermore, a significant correlation was reported between the time spent on the internet and OLR (Firat & Bozkurt, 2020). OLR is also associated with the individual's adaptation to the online environment, time management, and online experience (Smith, 2005; Smith et al., 2003). Spending time in online environments is a plus for the individual to comprehend the dynamics of the process (Vonderwell & Savery, 2004). Literature review revealed that individuals with good ICT competencies and social and communication skills could change OLR and phubbing and socializing behavior. Thus, it would be beneficial to address these two concepts as well.

## **Phubbing**

Smartphones are among the tools that were introduced to our lives due to the advances in communication technologies. We are occupied more with these devices in daily life when compared to others (Oulasvirta et al., 2012). This is due to the mobile facilities provided by the smartphones, such as communication (Do & Gatica-Perez, 2013), educational purposes (Tossell et al., 2015), and entertainment (Bowman et al., 2015). Despite the prominent benefits of smartphones, these devices have the potential for certain disadvantages as well (Ha et al., 2008; Lee et al., 2014). In particular, individuals who are busy with their phones could stop communicating with others, which is considered rude behavior in several countries (Rothwell, 2010). Furthermore, it was experimentally evidenced that these devices could be a problem for the students, especially during classes (Rosen et al., 2011). Phubbing is among the undesired behavior that could develop due to smartphone use. According to Karadağ et al., (2016), phubbing is the concentration of an individual on the phone during communication with others instead of these individuals. MacGuire Dictionary reported that the concept was developed by combining the words "phone" and "snubbing." Phubbing is characterized by disrespect and behavior that does not conform to traditional etiquette (Aagaard, 2020; Kadylak et al., 2018). It was even suggested that this behavior could destroy relationships, and individuals who are phubbed could experience depression (Al-Saggaf & O'Donnell, 2019; Wang et al., 2017). Empirical studies evidenced that phubbing could lead to adverse consequences (Chotpitayasunondh & Douglas, 2018). Thus, several studies were conducted on phubbing. The studies addressed issues such as the impact of phubbing on partner relations, psychological antecedents and consequences, determinants, causes, and its role in social interaction (Chotpitayasunondh & Douglas, 2016; 2018; Karadağ et al., 2015; 2016; Misra et al., 2014; Roberts & David, 2016). However, due to the dynamic structure of phubbing, further studies were suggested (Chotpitayasunondh & Douglas, 2016; 2018; Karadağ et al., 2015). The employment of technological tools increases in the classroom (Good & Lavigne, 1987). The distance education

requirement during the pandemic, education became completely dependent on technological devices. Thus, it was considered important to investigate the phubbing levels in students, among the important stakeholders in learning environments.

### **Sofalizing**

The increase in technology use during the pandemic led to the fulfillment of several jobs online. Individuals started to fulfill professional, educational, and nutritional needs online. Socialization, another human need, was also affected in this period. Although it has been considered that digital socialization may support face-to-face socialization, it was also argued that it might hinder physical socialization skills (Giddens, 2008). A new associated concept, called sofalizing, has emerged in this process. According to the Collins Dictionary (2021), the concept was created by combining the words “sofa” and “socializing.” It described the socialization of individuals on electronic devices instead of face-to-face interaction. It was reported that the concept was introduced in market research conducted by an online casino called Casino. It was reported that 26% of the members conducted all communications online. Also, one in ten individuals preferred to socialize instead of going out (Realwire, 2010). Based on the time that passed since the original research, the current situation could be estimated. Those who exhibit this behavior have various motivations. According to the Macmillan Dictionary (2019), the ability to multi-task, time pressures, laziness, a desire to avoid lengthy conversations, and the expenses associated with going out are among these motivations. Although these reasons seem logical, the limitation of the interactions to only online platforms could lead to several psychological consequences (Caplan, 2007; Herrero et al., 2019).

On the other hand, even though it was considered that socially weak individuals preferred social media, individuals who are socially strong with significant social contacts could also prefer online communications (Alison Bryant et al., 2006; Kraut et al., 2002). Social networks provide significant simultaneous communication facilities for individuals. According to Tosuntaş et al., (2020), individuals prefer to stay in their comfortable homes

and establish communication with their friends online due to these facilities, which leads to high socializing levels. Considering that most activities have been conducted online during the pandemic, it was suggested that socializing behavior was an important variable that should be investigated.

### **Aim of the Study**

The review of the literature on OLR demonstrated that the concept plays a key role in distance education activities (Hukle, 2009; Rohayani et al., 2015). It was observed that the responses varied based on face-to-face or distance education experiences in previous studies (Yu, 2018). Thus, it would be beneficial to collect data from students who have not participated in face-to-face courses in higher education and who attend a purely online program. Due to its nature, online education could be affected by ICT and social communication skills. It was reported that these skills were associated with phubbing and sofalizing. Due to its dynamic structure, further research was recommended on phubbing (Chotpitayasunondh & Douglas, 2016; 2018; Karadağ et al., 2015; Orhan Göksün, 2019). Sofalizing, which is a similar concept, during the pandemic, and the correlations between sofalizing and other variables have been a topic of curiosity. Thus, the present study aimed to investigate the OLR, phubbing, and sofalizing behavior among pre-service teachers who completed a term instructed completely online.

### **Methodology**

#### **The Research Model**

The present study was conducted with a correlational design. The model was selected to investigate the correlations between two or more variables (Creswell, 2002; Fraenkel et al., 2012).

#### **The Study Group**

The study participants included 130 first-year students pre-service teachers attending Pamukkale University during the 2020-2021 academic year fall semester. Participant age varied between 18 and 28. The majority of the study group were female students (71.5%). Based on the department, it was found that about half of the pre-service teachers were in the English Language Teaching (50.8%), followed by

the Psychological Counseling and Guidance (28.5%) and Mathematics Education (20.8%) departments.

The study group members were assigned with the criterion sampling method. The method was selected since the research aimed to analyze certain conditions predetermined based on certain criteria (Yıldırım & Şimşek, 2011). Thus, the main inclusion criteria included attendance in Pamukkale University Faculty of Education and is a freshman in the 2020-2021 academic year fall semester. Furthermore, only volunteering students were included in the study group.

### Data Collection Instruments

The study data were gathered with four scales: E-learning Readiness Scale for College Students, Generic Scale of Phubbing, Generic Scale of Being Phubbed, and Sofalizing Scale. Furthermore, student demographics such as gender, age, and department were collected with a form attached to the scales.

The OLR data were collected with the E-learning Readiness Scale for College Students developed by Yurdugül and Demir (2017) in the study. The instrument was selected since it was a current tool with an adequate factor structure for the determination of OLR and developed in the native language of the study population. The 7-point Likert type scale includes 33 items in 6 factors. The Cronbach Alpha internal consistency coefficient of the data collection instrument is .93. In the present study, the internal consistency coefficient was determined as .94. Thus, it could be suggested that the measurement tool had a high internal consistency (DeVellis, 2012; Kline, 2000).

For the investigation of the phubbing variable, the Turkish language adaptations of the Generic Scale of Phubbing and Generic Scale of Being Phubbed by Orhan Göksun (2018) were employed in the study. The original scales were developed by Chotpitayasunondh and Douglas (2016). The first

scale includes 15 items in 4 factors, and the second scale includes 22 items in 3 factors. The adaptations have the same structures. The Cronbach Alpha internal consistency coefficients of the Generic Scale of Phubbing was 0.93, and the coefficient was 0.96 for the Generic Scale of Being Phubbed. The same figures were 0.86 and 0.87 in the adapted versions, respectively. In the present study, the coefficients were determined as .91 and .92. They indicated that the scales had high internal consistency (DeVellis, 2012; Kline, 2000).

To determine the sofalizing behavior levels of pre-service teachers. Sofalizing Scale developed by Tosuntaş et al., (2020) was employed. The 5-point Likert type data collection instrument included 11 items in 2 factors. The Cronbach Alpha internal consistency coefficient of the scale was reported as 0.76. In the present study, the coefficient was calculated as .80, revealing that the scale exhibited adequate reliability. (DeVellis, 2012; Kline, 2000).

### Data Collection

The data collection was initiated at the end of the fall semester since the study aimed to determine the variables at the end of the term. After the finals were completed on January 27, 2021, the data collection instruments were available online. The study group was informed that participation in the study was voluntary. Furthermore, they were informed about the aim and scope of the study and participant rights before data collection. The last data was collected on February 9, 2021, and the data collection process was terminated.

### Data Analysis and Interpretation

Before the data analysis, the data set was examined for missing values. No missing data were identified. In the next stage, the normal distribution of the scale scores was examined. The findings are presented in Table 1.

**Table 1: Statistics Regarding the Scales**

Scale (n=130)	Min	Max	$\bar{x}$	SD	Skewness	Kurtosis
OLR	119.00	226.00	176.77	24.36	-.305	-.497
Phubbing	18.00	92.00	45.72	15.80	.643	.081
Being phubbed	35.00	154.00	81.86	20.63	.719	.635
Sofalizing	14.00	44.00	26.367	6.10	.453	-.017

According to George (2010), skewness and kurtosis should be between -2 and +2 to determine normal distribution. As seen in Table 1, it could be suggested that the dataset exhibited normal distribution. Furthermore, more than one method should be used to determine normal distribution (Çokluk et al., 2010). Thus, histograms and quantile graphs were also examined. It was determined that the data for all variables exhibited normal distribution.

Statistical software was employed to solve the research problems. The significance level was accepted as .05 in statistical analyses. The research problems are presented in Table 2.

**Table 2: Research Problems and Associated Analyses**

Research Problems	Type of Analysis
1. What is the OLR level of the participants?	Descriptive Statistics
• Does OLR differ based on gender?	Independent Samples t-test
• Does OLR differ based on department?	One-way ANOVA
2. What is the phubbing level of the participants?	Descriptive Statistics
• Does phubbing differ based on gender?	Independent Samples t-test
• Does phubbing differ based on department?	One-way ANOVA
3. What is the sofalizing level of the participants?	Descriptive Statistics
• Does sofalizing differ based on gender?	Independent Samples t-test
• Does sofalizing differ based on department?	One-way ANOVA
4. Is there a significant correlation between OLR, phubbing and sofalizing levels of the participants?	Pearson Correlation

**Limitations**

The present study has several limitations. The selected research design, the data collection instruments, the study participants, and the collected data are among these limitations.

**Results**

The findings obtained with the analyses conducted based on the research problems are presented under four main topics. First, descriptive statistics for OLR and variable levels based on gender and department are presented. The same statistics and findings are also presented for phubbing and sofalizing variables. Finally, findings on the correlations between these variables are presented.

**OLR Levels of the Participants**

The OLR of the pre-service teachers was investigated with descriptive statistics. The findings are given in Table 3.

**Table 3: Descriptive Statistics Regarding OLR**

	n	Min	Max	$\bar{x}$	SD
Score	130	119	226	176.77	24.36

The analysis of the descriptive statistics findings on OLR scores presented in Table 3 demonstrated that the average student score was high since the minimum scale score is 33 and the maximum scale score is 231 ( $M = 176.77$ ;  $SD = 24.36$ ). This expected finding could be due to developing individuals' online learning skills during the instructions conducted with distance education during the pandemic.

The independent-samples t-test was used to determine the difference between the OLR scores based on gender. The results are presented in Table 4.

**Table 4: OLR Scores Based on Gender**

Group	n	$\bar{x}$	SD	df	t	p
Female	93	177.56	23.74	128	.585	.560
Male	37	174.78	26.03			

As seen in Table 4, there was no significant difference between OLR scores based on gender. It was suggested that this was because the participants were included in a standard system, and they shared similar levels in other skills.

One-Way ANOVA was conducted to investigate the difference between the OLR scores of the participants based on their department. The results are presented in Table 5.

**Table 5: ANOVA Results on the OLR Scores Based on the Department**

Source of Variance	Sum of Square	df	Mean Square	F	p
Between Groups	298.861	2	149.431	.249	.780
Within Groups	76268.215	127	600.537		
<b>Total</b>	<b>76567.077</b>	<b>129</b>			

As seen in table 5, ANOVA results revealed no significant difference among the groups in terms of OLR. It was suggested that this was because the participants were included in a standard system, and they shared similar levels in OLR components, similar to the gender variable.

### Phubbing Levels of the Participants

In line with the second research question, phubbing and being phubbed scores of the participants were presented in Table 6.

**Table 6: Descriptive Statistics Regarding Phubbing and Being Phubbed**

	n	Min	Max	$\bar{x}$	SD
Phubbing	130	18	92	45.72	15.79
Being phubbed	130	35	154	81.86	20.63

The 7-point Likert-type Generic Scale of Phubbing includes 15 items, and the minimum scale score is 15, and the maximum scale score is 105. The analysis of the descriptive statistics presented in Table 6 demonstrated that the phubbing behavior among the pre-service teachers was low ( $M = 45.72$ ;  $SD = 15.79$ ). Similarly, in the 7-point Likert-type Generic Scale of Being Phubbed that includes 22 items, it was observed that the mean score was also low, albeit higher than the previous scale ( $M = 81.86$ ;  $SD = 20.63$ ). It was suggested that these

findings could be because the individuals have been constrained and could not go out frequently and did not reflect phubbing behavior in their responses. However, they have engaged in that behavior.

The independent-samples t-tests were used to determine the differences between the participant scores in phubbing and being phubbed based on gender. The results are presented in Table 7.

**Table 7: The Independent-Samples T-Tests Results**

	Group	n	$\bar{x}$	SD	df	t	p
Phubbing	Female	93	45.82	16.49	128	.107	.915
	Male	37	45.49	14.12			
Being phubbed	Female	93	81.18	20.09	128	-.593	.554
	Male	37	83.57	22.13			

Based on the findings presented in Table 7, there were no significant differences between both phubbing behavior and being phubbed scores based on gender.

One-Way ANOVA was employed to determine the differences among the departments in terms of phubbed. The ANOVA revealed no significant differences ( $F_{(2,127)} = .494$ ;  $p = 0.611$ ). On the other hand, One-Way ANOVA and Tamhane's T2 Test were used to investigate the difference between the phubbing scores of the participants regarding their department. The results are given in Table 8.

**Table 8: ANOVA Results regarding Department**

Source of Variance	Sum of Square	df	Mean Square	F	p	Significant Difference (Tamhane's T2)
Between Groups	3698.413	2	1849.206	4.586	.012	2 > 1, 3 > 1
Within Groups	51207.095	127	403.205			
<b>Total</b>	<b>54905.508</b>	<b>129</b>				

1 = Mathematics Education, 2 = English Language Teaching, 3 = Psychological Counseling and Guidance

The findings presented in Table 8 revealed that the being phubbed scores of the participants in the English Language Teaching ( $\bar{X} = 4.24$ ) and the Psychological Counseling and Guidance

( $\bar{X} = 4.19$ ) were higher when compared to those of the participants in the Mathematics Education ( $\bar{X} = 4.04$ ) ( $F_{(2,127)} = 4.586$ ;  $p < .05$ ). It was suggested that this was due to the study group characteristics.

### Sofalizing Levels of the Participants

In the third research problem, the sofalizing of pre-service teachers was investigated. Descriptive statistics employed to solve this research problem are given in Table 9.

**Table 9: Descriptive Statistics Regarding Sofalizing**

	n	Min	Max	$\bar{x}$	SD
Score	130	14	44	26.37	6.10

The analysis of the descriptive statistics conducted on the Sofalizing Scale scores presented in Table 9 demonstrated that the mean score was low ( $M = 26.37$ ;  $SD = 6.10$ ) considering that the minimum scale score is 11 and the maximum scale score is 55. This could be due to the awareness of the pre-service teachers about social media and digital tool employment. The independent-samples t-test was used to investigate the differences between the participant scores regarding gender, in table 10.

**Table 10: Independent-Samples t-Test Results**

Group	n	$\bar{x}$	SD	df	t	p
Female	93	26.01	5.51	52.60	-.937	.353
Male	37	27.27	7.40			

As seen in table 10, there was no significant difference between sofalizing scores based on the gender variable.

One-Way ANOVA was employed to investigate the difference between the sofalizing scores of the participants based on their department. The results are given in table 11.

**Table 11: ANOVA Results**

Source of Variance	Sum of Square	df	Mean Square	F	p
Between Groups	140.258	2	70.129	1.909	.152
Within Groups	4666.019	127	36.740		
<b>Total</b>	<b>4806.277</b>	<b>129</b>			

As shown in Table 11, there was no significant difference between sofalizing scores based on the pre-service teacher's department. It was suggested that this was due to the similar age and academic level of the individuals in the study group.

### The Correlation between OLR, Phubbing, and Sofalizing

Pearson Correlation coefficient was employed to investigate the correlation between the OLR, phubbing, being phubbed, and sofalizing scores of the pre-service teachers. The conducted analysis is given in Table 12.

**Table 12: The Correlation between the OLR, Phubbing, Being Phubbed and Sofalizing**

n=130	Phubbing	Being phubbed	Sofalizing
OLR	-.123	-.046	.078
Phubbing	-	.416**	.490**
Being phubbed		-	.179*

\*Correlation is significant in .05 level;

\*\*Correlation is significant in .01 level

As seen in Table 12, the findings revealed positive and significant relationships between phubbing, being phubbed, and sofalizing, as hypothesized. This could be due to the presence of similar determinants for the variables. However, no significant relationship was found in terms of OLR. A significant correlation was found between phubbing and being phubbed ( $r = .416$ ,  $p < .001$ ). Phubbing correlated positively with sofalizing as well ( $r = .490$ ,  $p < .001$ ). According to Cohen (1977), these correlations are moderate. Similarly, a significant but low correlation was determined between phubbed and sofalizing ( $r = .179$ ,  $p = .045$ ).

### Discussion

The present study aimed to investigate the OLR, phubbing, and sofalizing behavior of pre-service teachers who were instructed in a completely online educational environment during the pandemic and to determine the correlations between these variables. The research was conducted with 130 pre-service teachers. It was expected that the present study findings would reveal the OLR levels of pre-service teachers in distance education and their social behavior.

In the study, it was found that the OLR of the pre-service teachers was generally high. This finding was consistent with previous reports in the literature (Chung et al., 2020; Hung et al., 2010; Yurdugül & Demir, 2017). This expected finding could be due

to the improvements in ICT competencies during the pandemic. The finding was consistent with the studies that emphasized the significance of these skills in online environments (Keramati et al., 2011; Schreurs et al., 2008; Selim, 2007; Tang & Lim, 2013; Yu, 2018). On the other hand, OLR levels did not differ based on gender. This finding was in line with previous studies (Atkinson & Blankenship, 2009; Bunz et al., 2007; Chung, Subramaniam, & Dass, 2020; Chung et al., 2020; Hung et al., 2010; Masters & Oberprieler, 2004). Although OLR did not differ based on gender, it was determined that females had better OLR levels. Certain studies supported this finding (Chung et al., 2020). There was no difference between the OLR levels based on department. This finding contrasts with the literature, where differences were determined between the Mathematics Education, English Language Teaching, and Psychological Counseling and Guidance departments (Yurdugül & Demir, 2017). The fact that each student was included in a standard system took similar courses and exhibited similar levels in OLR components could be the reason for the above-mentioned finding.

The study results indicated that both phubbing and being phubbed scores of the participants were generally low. This was unexpected since it contradicted the fact that the most important determinants of phubbing are smartphones, social media, and internet dependency (Karadağ et al., 2015). Because of the above-mentioned factors and, therefore, the phubbing behavior was expected to increase during the pandemic. On the other hand, the findings were consistent with the literature (Balta et al., 2020; İlic & Tanyeri, 2021). It was suggested that this could be because individuals did not leave their homes regularly, and they may have responded to the related items due to social desirability, even if they were engaged in phubbing behavior. There were no differences between the scores for both variables based on gender. However, although the differences were not significant, it was determined that female participants exhibited more phubbing. This finding was in line with the literature (Guazzini et al., 2019; İlic & Tanyeri, 2021; Parmaksız, 2019). On the other hand, it was concluded that males were more phubbed when compared to females.

This finding was consistent with the findings of the studies that were conducted with similar samples in the literature (İlic & Tanyeri, 2021); however, but it was also inconsistent with the findings reported by Chotpitayasunondh and Douglas (2016). According to the authors, females were more phubbed since they utilized social communication tools more. It could be suggested that the gender-related findings were interesting. Thus, further studies are required to address the gender variable. Similar to the gender variable, there was no significant difference between the phubbing behaviors based on the student department. However, a difference was determined between being phubbed scores. The difference between the being phubbed scores based on the departments was considered derived from the study group. There were no previous studies in the literature that analyzed the department variable increases the importance of future research.

The study findings demonstrated that the sofalizing behavior of the pre-service teachers was low. Individuals with low social connectivity may lose their social identity over time and become detached from society (Lee & Robbins, 2000). These individuals become more prone to social media dependency (Kırcaburun et al., 2019; Lee & Stapinski, 2012). Furthermore, digital socialization could also reduce physical socialization skills (Giddens, 2008). Because all these behaviors increased during the pandemic, the present study findings were rather unexpected. It could be suggested that the maintenance of a balanced real life by the participants could have contributed to this finding.

On the other hand, it was determined that sofalizing behavior did not differ based on gender or department. This finding was consistent with previous studies, which reported that gender did not affect sofalizing (Tosuntaş et al., 2020). It could be suggested that the similar ages and academic levels of the participants could have been effective on these findings. There were no previous studies on the association between sofalizing and department in the literature. Thus, further studies are required on that correlation.

There were positive and significant correlations between phubbing, being phubbed, and sofalizing



in the study. The correlation between phubbing and being phubbed was consistent with the literature (Chotpitayasunondh & Douglas, 2016; ĩlic & Tanyeri, 2021). In other words, those who were phubbed start to phub over time. It was an expected finding that these variables were associated with sofalizing. The most important determinants of phubbing are smartphones, social media, and internet addiction (Karadađ et al., 2015). Similarly, there was a correlation between these factors and sofalizing (Tosuntař et al., 2020). Thus, the correlation between phubbing and sofalizing, which was analyzed for the first time, was in line with the literature. However, there were no significant correlations between OLR and the other variables. OLR was associated with online communication self-efficacy (Hung, 2016; Hung et al., 2010; Keramati et al., 2011). Thus, communication could also be affected by social and emotional control (Davis, 2006; Hung et al., 2010). In the literature, certain studies reported that OLR was associated with sofalizing (Joosten & Cusatis, 2020) and ICT (Keramati et al., 2011; Schreurs et al., 2008; Selim, 2007; Tang & Lim, 2013). Furthermore, a significant relationship was determined between the time spent on the Internet and OLR (Firat & Bozkurt, 2020). Thus, the lack of correlations between OLR, phubbing, and sofalizing, including social and communication skills, was unexpected. This could be because the concept has a complex structure that includes many factors (Hung, 2016; Hung et al., 2010; Keramati et al., 2011). Thus, further studies are required on the concept.

### Conclusion and Recommendations

In conclusion, it was determined that the OLR of the students was high. It was concluded that this variable did not vary based on gender or department. However, it was also determined that females exhibited higher OLR levels. The being phubbed and phubbing scores of the participants were quite low. Similar to the findings on OLR, the differences between these variables were not significant based on gender. However, females phubbed more, while males were phubbed more.

Furthermore, there were differences based on department. Similar to the phubbing behavior, it was determined that pre-service teachers' sofalizing

behavior levels were quite low. And there were no differences in sofalizing behavior based on gender or department. In the study, correlations were determined between phubbing, being phubbed, and sofalizing.

On the other hand, there were no correlations between OLR and these variables. It could be suggested that the present study findings contributed to the literature about the OLR, phubbing, and sofalizing levels of the pre-service teachers and the correlations between these variables in an entirely online educational setting. However, it was also clear that further studies are required on the topic:

- Further studies could be conducted to analyze the above-mentioned variables in the pre-test post-test experimental design and longitudinal methodology.
- Further studies could investigate learner achievements and satisfaction.
- These structures could be analyzed in-depth, and the factors behind the findings could be questioned in future qualitative studies.
- Further studies with larger sample sizes that investigate different institutions, faculties, and departments could be conducted.

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