Investigation of smartphone addiction levels of Turkish pre-service teachers

with regards to various variables

Hulusi Geçgel 1

Çanakkale Onsekiz Mart University, Çanakkale, Turkey

APA Citation:
Geçgel, H. (2020). Investigation of smartphone addiction levels of Turkish pre-service teachers with regards to various variables. Journal of Language and Linguistic Studies, 16(3), 1415-1442. Doi: 10.17263/jlls.803828
Submission Date: 27/05/2020
Acceptance Date: 30/06/2020

Abstract
This research aims to determine the smartphone addiction levels of Turkish pre-service teachers. In this study, a relational screening model, which is one of the quantitative research methods, was used. The study group consists of 178 pre-service teachers studying at a State University in the West of Turkey. Smartphone Addiction Scale adapted to Turkish by Demirci, Orhan, Demirdas, Akpınar and Sert (2014) were used in the research. Data analysis in the research was done through the SPSS 25 package program. Descriptive statistical analysis, t-test and ANOVA statistical analysis and correlation analysis were performed on the data obtained in the study. When the findings obtained from the research are examined, it is seen that the pre-service Turkish Teacher candidates use their smartphones more than they planned; female pre-service teachers’ have higher smartphone addiction levels than male pre-service teachers’. There is a significant difference between pre-service teachers’ smartphone addiction levels and their gender, age, economic status, place where they spend most of their lives, education level of parents, parental professions, grade averages, class levels, the number of books they read, and the time they spend on social media and the Internet.

Keywords: smartphone; dependence; internet; social media; Turkish pre-service teachers.

1. Introduction
Technology is advancing rapidly in the 21st century, and human beings cannot keep up with the speed of the rapidly advancing technology. This progress in communication technologies has been the determinant of the globalization process and it has also been influenced by it (Kadi & Öztuç, 2015). The fact that internet access is available everywhere thanks to the evolving technology also increases the amount of use of the internet and any equipment connected to the internet. (Turan, 2008 reported by Sabırlı, 2018). In the age of technology, computers, the internet and smartphones, which have been in human life for nearly 15 years, have become indispensable parts of our daily lives. The demand for smartphone use has been increasing every day due to the facilities that it offers and its ease of use.
Unlike the phones that were used for communication purposes only when they first entered our lives, smartphones have many features; social media, video chat, games, cameras, video recording, navigation, etc. as well as playing important roles in facilitating everyday life such as paying bills, shopping, writing emails (Ozata, 2019). Smartphones alone can do what computers do (Laudon & Laudon, 2012). In addition to these features, smartphones, with their small size as well as their ease of handling and use, have become widespread. However, in addition to the many easiness and conveniences that smartphones provide, smartphone addiction, which can develop due to their overuse, has been becoming increasingly common and a major problem in the world (Aggül, 2019). In the Waste Report for Turkey dated March 2017 published by the Ministry of Customs and Trade, 83.8% of individuals in our country own smartphones (Ölmeztoprak, 2019).

In addition to bringing convenience to human life, smartphones can cause many negative consequences by affecting individuals’ relationships with their social environment, their dialogue, and people's physical and mental health. While smartphones supposedly socialize individuals, they cause individuals to become individualized and lonely in real life (Park & Lee; 2012, Reported by Sabırlı, 2018).

Addiction is defined as the inability to quit the use of a substance or to control behaviour (Soydan, 2015 reported by Sabırlı, 2018). Smartphone addiction is defined as the stress, anxiety that individuals experience when they are unable to access or communicate with their mobile device for any reason (Çelik, 2019). According to Meral (2017), smartphone addiction is a type of behavioural addiction that damages users’ mental health and social relationships, along with the overuse of the smartphone and loss of control. People with smartphone addiction have a constant, frequent need to take care of their smartphones and check them non-stop. Phone usage times are increasing every day. Today, the first thing that smartphone users do as soon as they wake up in the morning, and again the last thing they do before they go to sleep is to check their smartphones (Lee et al., 2014, reported by Ozata, 2019). Today, it is known that many users spend time with their smartphones at any moment, who do most of their jobs with their smartphones, who feel bad and unhappy when their smartphones are not with them (Polat, 2017; reported by Özata, 2019). Many studies have been conducted on smartphone addiction (Kuss, 2011; Takao, Takahashi & Kitamura, 2011; Tuncer, 2013; Alfawareh & Jusoh, 2014; Montenegro, Tosuntaş, Erzen, Duru, Bostan, ŞahinToten, 2015; Lipscomb, Cook & Lesch, 2015; Çalışkan, Yalçın, Aydın & Ayık, 2017; Güney, 2017; Büyükgebiz Koca, 2019). When all these studies were examined, it was observed that there was no research on smartphone addiction levels of Turkish pre-service teachers. In this respect, this research aims to determine the smartphone addiction levels of Turkish pre-service teachers.

2. Method

2.1. Research model

In this study, a relational screening model, which is one of the quantitative research methods, was used. The relational screening method is a research model that aims to determine the presence and/or degree of co-change between two or more variables (Karasar, 2013). In this study, relational scanning model was used to determine the level of addiction of Turkish pre-service teachers and the relationship between variables.
2.2. Sample / Participants

The study group consists of 178 pre-service teachers studying at a State University in the West of Turkey. Descriptive statistical analyses of the sample group were given.

Table 1. Gender of research participants

| Gender | f   | %   |
|--------|-----|-----|
| Female | 159 | 66.3|
| Male   | 81  | 33.8|

When Table 1 is examined, it is seen that 66% of the participant pre-service teachers were female and 33% of them were male.

Table 2. Age groups of the research participants

| Age   | f  | %   |
|-------|----|-----|
| 18-19 | 77 | 32.1|
| 20-21 | 120| 50.0|
| 22-23 | 31 | 12.9|
| 24+   | 12 | 5.0 |

When Table 2 is examined, 32.1% of the participants in the study were in the 18-19 age range, 50.0% of them were in the 20-21 age range, 12.9% of them were in the 22-23 age range, 5.0% of them were in the 24 and above age range.

Table 3. Descriptive statistical analysis of the places where the participants have spent their lives

| Place where they have spent their lives | f  | %   |
|---------------------------------------|----|-----|
| Village                               | 32 | 13.3|
| Town                                  | 38 | 15.8|
| City                                  | 90 | 37.5|
| Metropolis                            | 80 | 33.3|

When Table 3 was examined, 13.3% of the respondents were found to have spent most of their lives in the village, 15.8% in the town, 37.5% in the city, and 33.3% in the metropolitan cities.
Table 4. Economic status of participants

| Economic Status | f  | %  |
|-----------------|----|----|
| Low             | 30 | 12.5 |
| Average         | 178| 74.2 |
| High            | 32 | 13.3 |

When Table 4 was examined, 12.5% of the pre-service teachers who participated in the study had low, 74.2% had average and 13.3% had high-level economic status.

Table 5. Educational status of the mothers of research participants

| Mother’s Educational Status            | Father’s Educational Status |
|----------------------------------------|-----------------------------|
| Illiterate                             | Retired                     |
| Graduate of Primary School             | Worker                      |
| Graduate of Elementary School          | Housewife                   |
| Graduate of High School                |                             |
| Graduate of University                 |                             |

When Table 5 was examined, it was observed that 5.4% of the mothers of the pre-service teachers participating in the study were illiterate, 5.4% were literate, 52.9% were primary school graduates, 13.3% were secondary school, 15.8% were high school, and 7.1% were university graduates. Of the fathers of the respondents, 0.8% were illiterate, 2.1% were literate, 35.0% were primary school, 22.9% were secondary school, 23.8% were high school, and 15.4% were university graduates.

Table 6. Professional status of the mothers of the research participants

| Occupation of Mothers | Occupation of Fathers |
|-----------------------|-----------------------|
| f                     | %                     |
| Retired               | Artisan               |
| Worker                | Farmer                |
| Civil Servant         | Housewife             |

When Table 6 was examined, it was observed that 5.8% of the mothers of the participants were retired, 1.3% were artisans, 11.3% were workers, 2.1% were farmers, 7.5% were civil servants, and
72.2% were housewives. Of the fathers of the respondents, 27.5% were retired, 14.6% were artisans, 34.6% were workers, 7.9% were farmers, and 15.4% were a civil servant.

**Table 7.** Grade point averages of the participants

| Grade Point Averages (GPA) | f  | %  |
|---------------------------|----|----|
| 0-1.99                    | 16 | 6.7|
| 2.00-2.49                 | 68 | 28.3|
| 2.50-2.99                 | 102| 42.5|
| 3.00-4.00                 | 54 | 22.5|

When Table 7 was examined, it was seen that 6.7% of the respondents had a GPA of 0-1.99, 28.3% had a GPA of 2.00 to 2.99, 42.5% had a GPA of 2.50 to 2.99, and 22.5% had a GPA of 3.00 to 4.00.

**Table 8.** Grade levels of the participants

| Grade Level | f  | %  |
|-------------|----|----|
| 1. Grade    | 71 | 29.6|
| 2. Grade    | 51 | 21.3|
| 3. Grade    | 98 | 40.8|
| 4. Grade    | 20 | 8.3 |

29.6% of respondents were 1. Grade. 21.3% of them were 2. Grade, 40.8% were 3. Grade, 8.3% were 4. Grade.

**Table 9.** The number of books that research participants read annually

| Number of Books Read Annually | f  | %  |
|------------------------------|----|----|
| 1-5                          | 39 | 16.3|
| 5-10                         | 82 | 34.2|
| 11-15                        | 66 | 27.5|
| 16+                          | 53 | 22.1|

Of the respondents, 16.3% read books between 1-5, 34.2% read books between 5-10, 27.5% read books between 10-15 and 22.1% read books between 16 and above.
Table 10. Duration that research participants spend on the internet

| Duration Spent on the Internet | f  | %  |
|------------------------------|----|----|
| 0-1 hour                     | 6  | 2.5|
| 1-2 hour                     | 29 | 12.1|
| 2-3 hour                     | 65 | 27.1|
| 3-4 hour                     | 60 | 25.0|
| More than 4 hours            | 80 | 33.3|

When Table 10 was examined, it was observed that 2.5% of the participants spent 0-1 hours, 12.1% spent 1-2 hours, 27.1% spent 2-3 hours, 25% spent 3-4 hours and 33.3% spent more than 4 hours on the internet.

2.3. Instrument(s)

Smartphone Addiction Scale adapted to Turkish by Demirci, Orhan, Demirdas, Akpinar and Sert (2014) were used in the research. The scale consists of 33 items and 7 dimensions. Permission was received from the researchers to use the scale. As a result of the analysis performed by the researcher (Kaiser-Meyer-Olkin (KMO=.89) and Bartlett test \( \chi^2=3847.107; \text{sd}=528, p=.000 \), it was found that structural validity of the scale was appropriate and a 7-factor structure emerged.

2.4. Data analysis

Data analysis in the research was done through the SPSS 25 package program. The Cronbach alpha value on the scale was found to be 0.92. This value indicates that the scale is reliable. To determine whether the data obtained from the study showed normal distribution, skewness and kurtosis values were calculated. It is stated in the literature that skewness and kurtosis values must be between -2 and +2 to show normal distribution (Şencan, 2005).

Table 11. Skewness and kurtosis values of the scale

| Dimensions                  | Skewness | Kurtosis |
|-----------------------------|----------|----------|
| Obscuring Daily Life and Tolerance | .501     | -.012    |
| Deprivation Symptoms        | .834     | .455     |
| Positive Expectations       | .186     | -.292    |
| Cyber-focused relationships | 1.180    | .885     |
| Overuse                     | .565     | .362     |
| Addiction to Social Network | .432     | -.479    |
| Physical Symptoms           | .641     | .253     |

As can be seen from the table, the research data had a normal distribution. As the research data had a normal distribution, parametric tests were used for the relevant analysis. Descriptive statistical analysis, t-test and ANOVA statistical analysis and correlation analysis were performed on the data.
obtained in the study. The correlation coefficient can be between (-1) and (+1) in the analysis, which is shown as “r” in the correlation analysis. The fact that the “r” between variables is between 0.00 and 0.29 means low, between 0.30 and 0.69 means medium, and between 0.70 and above means high correlation (Ural and Kılıç, 2006).

3. Results

In this part of the research, the data obtained with this research will be analyzed and interpreted.

Table 12. Descriptive statistical analysis regarding obscuring daily life and tolerance

| Name of the Dimension | Items                                                                 | General Average |
|-----------------------|----------------------------------------------------------------------|-----------------|
|                       |                                                                      | X   | ss  |                      |
| Obscuring Daily life  | I use my smartphone more than I planned.                             | 3.47 | 1.47 |
| and Tolerance         | I always think I should shorten my time spent on smartphone         | 3.44 | 1.52 |
|                       | Right after I stop using my smartphone. I feel the need to use it    | 2.97 | 1.50 |
|                       | again.                                                               |     |     |
|                       | Because of my smartphone use, I have difficulty concentrating in     | 2.87 | 1.39 |
|                       | class. doing homework or working.                                    |     |     |
|                       | I can't keep up my scheduled work because of my smartphone use.      | 2.75 | 1.33 |
|                       | I can't get enough sleep due to excessive smartphone use and I feel  | 2.67 | 1.50 |
|                       | tired.                                                               |     |     |
|                       | People around me say I use my smartphone too often.                  | 2.51 | 1.45 |
|                       | I have tried repeatedly to shorten my time spent on my smartphone.   | 2.37 | 1.34 |
|                       | but each time I failed.                                              |     |     |

When Table 12 was examined, it was seen that pre-service teachers used their smartphones more than they planned and that they felt the need to shorten the duration of use. Pre-service teachers felt the need to use their smartphones again after they stopped using them, they had difficulty in concentrating in doing homework, or working, they felt tired and did not get enough sleep because of excessive smartphone use, they were uncertain about that they used their smartphones too much. Some pre-service teachers had repeatedly tried to shorten the time spent on smartphone and had succeeded, as well as those who had failed.

Table 13. Descriptive statistical analysis of the dimension of deprivation symptoms

| Name of Dimension   | Item                                                   | General Average |
|---------------------|--------------------------------------------------------|-----------------|
|                     | X   | ss  |                      |
| Deprivation Symptoms| I can't stand not having a smartphone.                 | 2.90 | 1.59 |
|                     | Without my smartphone. my life is meaningless.         | 2.26 | 1.31 |
|                     | I feel impatient and frustrated when I don't have my   | 2.25 | 1.31 |
|                     | smartphone in my hand                                  |     |     |
|                     | I think of my smartphone even when I'm not using it.   | 2.22 | 1.29 |

2.18
I feel free the most when I am using my smartphone  2.00  1.08
There's nothing more fun than using a smartphone.  1.82  1.08
Using a smartphone is the most fun thing in my life.  1.81  1.04

When Table 13 was examined in terms of the overall average, it was seen that pre-service teachers did not show deprivation symptoms. It was observed that pre-service teachers felt uncertain about their ability to withstand lacking a smartphone, that their lives were meaningful even if they did not have a smartphone, that they felt impatient and frustrated when they did not have their smartphones in their hands, that they thought about their phones even when they were not using them. Pre-service teachers said that they did not feel free the most when they are using their smartphones, that there were some other things more fun than using a smartphone, that using a smartphone was not the most fun thing in their lives.

Table 14. Descriptive statistics analysis of the positive expectation dimension

| Name of Dimension | Items                                                                 | X    | ss  | General Average |
|-------------------|-----------------------------------------------------------------------|------|-----|-----------------|
| Positive Expectation | I feel joyful and effusive when using a smartphone.                  | 3.37 | 1.28 |                 |
|                    | I calm down and relax when using a smartphone.                        | 3.08 | 1.36 |                 |
|                    | It's a great feeling to meet more people via smartphone.              | 2.84 | 1.42 | 2.96            |
|                    | It is possible to get rid of stress with a smartphone.               | 2.82 | 1.43 |                 |
|                    | I feel safe when using a smartphone.                                 | 2.69 | 1.33 |                 |

Pre-service teachers appear to be uncertain about the positive expectations for smartphones. Pre-service teachers express that they feel joyful and enthusiastic, calm down and relax while using their smartphones. Pre-service teachers are uncertain about that meeting more people via a smartphone is a great feeling, that it was possible to get rid of stress with a smartphone, and that they felt safe when using a smartphone.

Table 15. Descriptive statistics analysis of dimension of cyber-oriented relationships

| Name of Dimension | Item                                                                 | X    | ss  | General Average |
|-------------------|-----------------------------------------------------------------------|------|-----|-----------------|
| Cyber-oriented relationships | I think my relationships with my friends on the smartphone are more intimate than my relationships with my friends in real life | 1.85 | 1.09 |                 |
|                    | I prefer spending time with friends on the smartphone than spending time with friends in real life or other family members. | 1.79 | 1.12 | 1.76            |
|                    | I think my friends on my smartphone understand me better than my real-life friends. | 1.74 | 1.05 |                 |
|                    | Not being able to use my smartphone can be as painful as losing a friend. | 1.68 | 1.08 |                 |

Pre-service teachers said that they did not prefer their relationship with their friends on the smartphone to their relationship with their friends in real life. Pre-service teachers claimed that their
relationship with their friends on their smartphone wasn't more intimate than their relationship with their real-life friends; that they did not prefer spending time with friends on the smartphone to their real-life friends or other family members, that their friends on their smartphones did not understand them better than those in real life, and that not being able to use their smartphones could not be as painful as losing a friend.

Table 16. Descriptive statistics analysis of overuse dimension

| Name of Dimension | Items                                                                 | $\bar{X}$ | ss   | General Average |
|-------------------|-----------------------------------------------------------------------|-----------|------|-----------------|
| Overuse           | My smartphone battery is not enough for a day even when it is fully charged. | 3.33      | 1.70 |                 |
|                   | I never stop using my smartphone. even if it greatly affects my daily life.          | 2.75      | 1.47 | 2.76            |
|                   | Even when I have to go to the toilet immediately. I take my smartphone with me.               | 2.49      | 1.56 |                 |
|                   | It is annoying to be disturbed while I’m busy with my smartphone.                          | 2.39      | 1.35 |                 |

Pre-service teachers say that even when the battery of their smartphones is full, they are not enough for a day, and they will never stop using their smartphone even if it greatly affects their daily lives. Pre-service teachers are uncertain about taking their phones with them when they go to the toilet and being disturbed when they are busy with their smartphone.

Table 17. Descriptive statistics analysis of social network addiction

| Name of Dimension | Items                                                                 | $\bar{X}$ | ss   | General Average |
|-------------------|-----------------------------------------------------------------------|-----------|------|-----------------|
| Social Network Addiction | I check social networks like Twitter or Facebook as soon as I wake up. | 3.09      | 1.60 | 2.74            |
|                   | I constantly check my smartphone not to miss people’s status on Twitter or Facebook. | 2.40      | 1.38 |                 |

Pre-service teachers said that as soon as they woke up, they checked their social media accounts and were uncertain about constantly checking their phones to keep up with their social media posts once they woke up.

Table 18. Descriptive statistical analysis of physical symptoms dimension

| Name of Dimension | Items                                                                 | $\bar{X}$ | ss   | General Average |
|-------------------|-----------------------------------------------------------------------|-----------|------|-----------------|
| Physical Symptoms | I’m experiencing dizziness or blurred vision due to excessive smartphone use. | 2.06      | 1.27 |                 |
|                   | I feel pain in my wrists or the back of my neck when using a smartphone. | 2.62      | 1.46 | 2.73            |
|                   | I'd rather research it on my smartphone than ask other people.          | 3.52      | 1.51 |                 |
Pre-service teachers said that they preferred to research for people on their smartphones, felt pain in the back of their wrists or necks while using a smartphone, had no problems such as dizziness or blurred vision.

**Table 19.** T-test Results of the items on smartphone addiction scale by gender

| Dimension                                           | Gender        | n  | Mean | ss   | t     | df  | p      |
|-----------------------------------------------------|---------------|----|------|------|-------|-----|--------|
| I feel joyful and effusive when using a smartphone. | Female        | 159| 3.49 | 1.29 | 1.96  | 238 | .051   |
|                                                     | Male          | 81 | 3.14 | 1.25 |       |     |        |
| I feel safe when using a smartphone.                | Female        | 159| 2.81 | 1.36 | 1.99  | 238 | .048   |
|                                                     | Male          | 81 | 2.45 | 1.24 |       |     |        |
| Without my smartphone. life is meaningless.         | Female        | 159| 2.46 | 1.36 | 3.43  | 238 | .001   |
|                                                     | Male          | 81 | 1.86 | 1.10 |       |     |        |
| I feel free most when using a smartphone            | Female        | 159| 2.11 | 1.13 | 2.41  | 238 | .017   |
|                                                     | Male          | 81 | 1.76 | .939 |       |     |        |
| I can't stand not having a smartphone.              | Female        | 159| 3.18 | 1.57 | 3.92  | 238 | .000   |
|                                                     | Male          | 81 | 2.35 | 1.49 |       |     |        |
| I feel impatient and frustrated when I don't have my smartphone in my hand. | Female | 159| 2.38 | 1.35 | 2.08  | 238 | .039   |
|                                                     | Male          | 81 | 2.01 | 1.20 |       |     |        |
| I always think about my smartphone even when I'm not using it. | Female | 159| 2.42 | 1.31 | 3.29  | 238 | .001   |
|                                                     | Male          | 81 | 1.85 | 1.15 |       |     |        |
| I never stop using my smartphone. even if it greatly affects my daily life. | Female | 159| 2.98 | 1.51 | 3.41  | 238 | .001   |
|                                                     | Male          | 81 | 2.30 | 1.27 |       |     |        |
| I'd rather research on my smartphone than ask other people. | Female | 159| 3.67 | 1.45 | 2.13  | 238 | .034   |
|                                                     | Male          | 81 | 3.23 | 1.60 |       |     |        |
| Right after I stop using my smartphone. I feel the need to use it again. | Female | 159| 3.19 | 1.51 | 3.23  | 238 | .001   |
|                                                     | Male          | 81 | 2.54 | 1.39 |       |     |        |

When the table was examined, it was seen that female pre-service teachers were more pleasant and enthusiastic while using the phone compared to male pre-service teachers, they felt safe, they believed their life would be meaningless without a smartphone, they felt free when using a smartphone, they could not stand not having a smartphone, they were impatient when their smartphones were not in their hands, they thought about their smartphones even when they were not using it, even if it greatly affected their daily lives, they would never stop using their smartphones, they would rather research on their smartphones rather than asking other people, and they felt the need to use their smartphones again immediately after they stopped using them.
Table 20. ANOVA results between pre-service teachers' ages and dimensions of smartphone addiction scale

| Item                                | Source of Variance | Sum of Square | sd  | Sum of Squares | F    | p    | Significant Difference |
|-------------------------------------|--------------------|---------------|-----|----------------|------|------|------------------------|
| Obscuring Daily life and Tolerance | Between Group      | 1.404         | 2   | .702           | .670 | .513 |                        |
|                                     | Within Groups      | 248.239       | 237 | 1.047          |      |      |                        |
|                                     | Total              | 249.643       | 239 |                |      |      |                        |
| Deprivation Symptoms                | Between Group      | 1.271         | 2   | .636           | .695 | .500 |                        |
|                                     | Within Groups      | 216.639       | 237 | .914           |      |      |                        |
|                                     | Total              | 217.910       | 239 |                |      |      |                        |
| Positive Expectation                | Between Group      | .614          | 2   | .307           | .324 | .723 |                        |
|                                     | Within Groups      | 224.398       | 237 | .947           |      |      |                        |
|                                     | Total              | 225.012       | 239 |                |      |      |                        |
| Cyber-oriented relationships        | Between Group      | 1.190         | 2   | .595           | .851 | .428 |                        |
|                                     | Within Groups      | 165.726       | 237 | .699           |      |      |                        |
|                                     | Total              | 166.916       | 239 |                |      |      |                        |
| Overuse                             | Between Group      | .665          | 2   | .333           | .294 | .746 |                        |
|                                     | Within Groups      | 268.409       | 237 | 1.133          |      |      |                        |
|                                     | Total              | 269.074       | 239 |                |      |      |                        |
| Social Network Addiction            | Between Group      | 13.105        | 2   | 6.552          | 4.009| .019 |                        |
|                                     | Within Groups      | 387.391       | 237 | 1.635          |      |      | B-C                    |
|                                     | Total              | 400.496       | 239 |                |      |      |                        |
| Physical Symptoms                   | Between Group      | 1.718         | 2   | .859           | .849 | .429 |                        |
|                                     | Within Groups      | 239.697       | 237 | 1.011          |      |      |                        |
|                                     | Total              | 241.415       | 239 |                |      |      |                        |

A= 18-19; B=20-21; C=22 and above

When Table 20 was examined, it was seen that there was not a significant relationship between the dimensions of the scale of smartphone addiction; obscuring daily life and tolerance (F=.513; p>.05), deprivation symptoms (F=.695; p>.05), positive expectation (F=.723;p>.05), cyber-oriented relations (F=.428; p>.05), overuse (F=.746; p>.05), physical symptoms (F=.429;p>.05) and the ages of the pre-service teachers. The dimension of social network addiction (F=4.009; p<.05) was found to have a significant relationship with the age of the pre-service teachers. Tukey multi-comparison test results revealed that pre-service teachers in the 20-21 age range were constantly checking their smartphones to ensure that people did not miss their posts on Twitter or Facebook more often than those in the 22 and above age range.
Table 21. ANOVA results performed on the data obtained from the responses given by pre-service teachers to the items of smartphone addiction scale and participants’ ages

| Item                                                                 | Source of Variance | Sum of Square | sd | Means of Square | F    | p       | Significant Difference |
|----------------------------------------------------------------------|--------------------|---------------|----|-----------------|------|---------|------------------------|
| I check social networks like twitter or facebook as soon as I wake up.| Between Group      | 19.288        | 2  | 9.644           | 3.843| .023    |                        |
| I would rather research on my smartphone than ask other people.      | Within Groups      | 594.696       | 237| 2.509           |      |         | B-A                    |
| Total                                                               |                    | 613.983       | 239|                 |      |         |                        |

**A= 18-19; B=20-21; C=22 and above**

When Table 21 was examined, it was seen that there was a statistically significant difference between the pre-service teachers' responses to “I check social networks like Twitter or Facebook as soon as I wake up; I would rather research on my smartphone than ask other people” and their ages. Turkey multiple comparison tests revealed that those in the age range 20-21 prefer to search on their smartphone for the information that they needed rather than asking other people and checked their status on social networks more often than those in the age range of 18-19.

Table 22. ANOVA results obtained from the responses given by pre-service teachers to the items on smartphone addiction scale and the place where they have spent most of their lives

| Item                                                                 | Source of Variance | Sum of Square | sd | Means of Square | F    | p       | Significant Difference |
|----------------------------------------------------------------------|--------------------|---------------|----|-----------------|------|---------|------------------------|
| I feel impatient and frustrated when I don't have my smartphone in my hand. | Between Group      | 13.425        | 3  | 4.475           | 2.637| .050    |                        |
| I would never stop using my smartphone, even if it greatly affects my daily life. | Within Groups      | 400.558       | 236| 1.697           |      |         | A-B                    |
| Total                                                               |                    | 413.983       | 239|                 |      |         |                        |

**A=Metropolis, B: City, C: Town, D: Village**

When Table 22 was examined, it was seen that there was a statistically significant difference between the pre-service teachers' responses to “I feel impatient and frustrated when I don't have my smartphone in my hand; I never stop using my smartphone, even if it greatly affects my daily life” and where they have spent most of their lives. Tukey multi-comparison test revealed that pre-service teachers who had spent most of their lives in the metropolitan cities felt impatient and frustrated when they did not have their smartphones in their hands and that they never stopped using their smartphones even if they greatly affected their lives more than those who had spent most of their lives in the cities.
**Table 23.** ANOVA test results regarding the economic status that participants felt and dimensions of smartphone addiction scale

| Item                        | Source of variance | Sum of Square | sd    | Means of Square | F         | p     | Significant Difference |
|-----------------------------|--------------------|---------------|-------|-----------------|-----------|-------|------------------------|
| Obscuring daily life and tolerance | Between Group      | 6.870         | 2     | 3.435           | 3.353     | .037  |                        |
|                             | Within Groups      | 242.774       | 237   | 1.024           | 1.235     | .396  |                        |
|                             | Total              | 249.643       | 239   |                 |           |       |                        |
| **Deprivation Symptoms**    | Between Group      | 13.523        | 2     | 6.762           | 7.841     | .001  |                        |
|                             | Within Groups      | 204.387       | 237   | .862            | 1.024     | .315  | A-B                    |
|                             | Total              | 217.910       | 239   |                 |           |       | A-C                    |
| **Positive Expectation**    | Between Group      | 11.707        | 2     | 5.853           | 6.504     | .002  |                        |
|                             | Within Groups      | 213.305       | 237   | .900            | 1.024     | .315  | A-C                    |
|                             | Total              | 225.012       | 239   |                 |           |       |                        |
| **Cyber-oriented relationships** | Between Group     | 5.642         | 2     | 2.821           | 4.145     | .017  |                        |
|                             | Within Groups      | 161.274       | 237   | .680            | 1.024     | .315  | A-C                    |
|                             | Total              | 166.916       | 239   |                 |           |       |                        |
| **Overuse**                 | Between Group      | 15.423        | 2     | 7.711           | 7.205     | .001  | A-B                    |
|                             | Within Groups      | 253.651       | 237   | 1.070           | 1.024     | .315  | A-C                    |
|                             | Total              | 269.074       | 239   |                 |           |       |                        |
| **Social Network Addiction** | Between Group      | 16.017        | 2     | 8.008           | 4.937     | .008  |                        |
|                             | Within Groups      | 384.479       | 237   | 1.622           | 1.024     | .315  | A-C                    |
|                             | Total              | 400.496       | 239   |                 |           |       |                        |
| **Physical Symptoms**       | Between Group      | 9.925         | 2     | 4.963           | 5.081     | .007  |                        |
|                             | Within Groups      | 231.489       | 237   | .977            | 1.024     | .315  | A-B                    |
|                             | Total              | 241.415       | 239   |                 |           |       |                        |

*A: High, B: Average, C: Low*

When Table 23 was examined, it was seen that there was a significant relationship between the economic status felt by pre-service teachers and the dimensions of obscuring daily life and tolerance (F=3.353; p<.05), deprivation symptoms (F=7.841; p<.05), positive expectation (F=6.504; p<.05), cyber-oriented relations (F=4.145; p<.05), overuse (F=7.205; p<.05), physical symptoms (F=4.937; p<.05), and social network addiction (F=5.081; p<.05). Tukey multiple comparison test results revealed that pre-service teachers who considered their economic situation high seemed to fail to manage their own business due to their use of smartphones, suffered from concentration problems, lacked enough sleep, used their smartphones too much, considered their smartphones as a source of entertainment, cannot tolerate being without their smartphones, though about their smartphones even when they were not using their smartphones and suffered physical health problems. Pre-service teachers who found their economic situation high placed their smartphones in the centre of their lives claimed that their life would be meaningless without their smartphones, stated that they calmed down when using their smartphones, felt secure, happy, preferred spending time with their friends on their smartphones to spending time with their real-life friends and other people, overused their smartphones, and constantly check their social media accounts compared to the pre-service teachers who found their economic situation low. Pre-service teachers who found their economic situation high calmed down when they...
had their smartphones in their hands and felt confident compared to the pre-service teachers who found their economic situation low.

**Table 24.** ANOVA test results performed on the responses of the pre-service teachers to smartphone addiction scale and their mothers’ educational level

| Items                                                                 | Source of Variance | Sum of Squares | sd        | Means of Square | F      | p          | Significant Difference |
|----------------------------------------------------------------------|--------------------|----------------|-----------|-----------------|--------|------------|------------------------|
| Because of my smartphone use. I have difficulty concentrating in class, doing homework or working. | Between Group      | 26.731         | 5         | 5.346           | 2.838  | .016       | B-A                    |
|----------------------------------------------------------------------| Within Groups      | 440.765        | 234       | 1.884           |        |            | C-A                    |
| Total                                                              |                    | 467.496        | 239       |                 |        |            | D-A                    |
| Even if I have to go to the toilet immediately. I'll take my smartphone with me. | Between Group      | 47.005         | 5         | 9.401           | 4.097  | .001       | E-B                    |
|----------------------------------------------------------------------| Within Groups      | 536.991        | 234       | 2.925           |        |            |                        |
| Total                                                              |                    | 583.996        | 239       |                 |        |            |                        |

A: Literate, B: Primary School, C: Secondary School, D: High School, E: University

When table 24 is examined, it can be said that there is a statistically significant difference between the pre-service teachers' responses to "I have difficulty concentrating in class, doing homework or working because of my use of a smartphone; even if I have to go to the toilet immediately, I will take my smartphone with me" and their maternal education levels. As a result of the Tukey multiple comparison tests, pre-service teachers whose mother graduated from primary school, secondary school, high school, and pre-service teachers whose mother is literate suffer from a lack of concentration due to using smartphones. Pre-service teachers whose mother is a graduate of university take their smartphones with themselves even when they have to go to the toilet urgently more than those whose mothers are graduates of primary school.

**Table 25.** ANOVA results between the paternal educational status of pre-service teachers and the dimensions of smartphone addiction scale

| Item                          | Source of Variance | Sum of Squares | sd    | Means of Square | F   | p    | Significant Difference |
|------------------------------|--------------------|----------------|-------|-----------------|-----|------|------------------------|
| Obscuring Daily Life and Tolerance | Between Group      | 1.555          | 3     | .518            | .493| .687 |                        |
|                              | Within Groups      | 248.088        | 236   | 1.051           |     |      |                        |
|                              | Total              | 249.643        | 239   |                 |     |      |                        |
| Deprivation Symptoms         | Between Group      | 2.852          | 3     | .951            | 1.043| .374 |                        |
|                              | Within Groups      | 215.058        | 236   | .911            |     |      |                        |
|                              | Total              | 217.910        | 239   |                 |     |      |                        |
| Positive Expectation         | Between Group      | 9.780          | 3     | 3.260           | 3.575| .015 | D-B                    |
|                              | Within Groups      | 215.232        | 236   | .912            |     |      |                        |
|                              | Total              | 225.012        | 239   |                 |     |      |                        |
|                              | Between Group      | 4.774          | 3     | 1.591           | 2.316| .076 |                        |
Cyber-oriented Relationships

|          | Between Group | Total  |
|----------|---------------|--------|
| Within Groups | 8.990         | 236    |
|          | 2.997         | 239    |
|          | 2.719         | .045   |
| Total    | 166.916       | 239    |

Overuse

|          | Between Group | Total  |
|----------|---------------|--------|
| Within Groups | 260.084       | 236    |
|          | 1.102         | 239    |
|          | E-B           |        |
| Total    | 269.074       | 239    |

Social Network Addiction

|          | Between Group | Total  |
|----------|---------------|--------|
| Within Groups | 7.356         | 236    |
|          | 2.452         | 239    |
|          | 1.472         | .223   |
| Total    | 400.496       | 239    |

Physical Symptoms

|          | Between Group | Total  |
|----------|---------------|--------|
| Within Groups | 239.197       | 236    |
|          | 1.014         | 239    |
| Total    | 241.415       | 239    |

**A: Literate, B: Primary school, C: Secondary School, D: High School, E: University**

When Table 25 was examined, the dimensions of the smartphone addiction scale; obscuring daily life and tolerance (F=.687; p>.05), deprivation symptoms (F=.374; p>.05), cyber-oriented relations (F=2.316; p>.05), physical symptoms (F=.729; p>.05), social network addiction (F=1.472; p<.05) were found to have no significant relationship with the participants' fathers' education level. The dimensions of smartphone addiction scale; positive expectation (F=3.575; p<.05), overuse (F = 2.719; p<.05) were found to have a significant relationship with the participants’ fathers’ educational level. Tukey multiple comparison tests revealed that pre-service teachers whose fathers were high school graduates exhibited more positive attitudes when using a smartphone than pre-service teachers whose fathers were primary school graduates. Pre-service teachers whose fathers were university graduates were found to use their smartphones more often than those whose fathers were primary school graduates.

**Table 26.** ANOVA test results performed on the responses of the pre-service teachers to the items in the smartphone addiction scale and their mothers’ occupations

| Item                                                                 | Source of Variance | Sum of Square | Means of Square | F     | p     | Significant Difference |
|---------------------------------------------------------------------|--------------------|---------------|----------------|-------|-------|-----------------------|
| It is possible to get rid of stress with a smartphone.              | Between Group      | 23.036        | 5              | 4.607 | 2.302 | .046                  |
|                                                                    | Within Groups      | 468.259       | 234            | 2.001 | B-A   |                       |
|                                                                    | Total              | 491.296       | 239            |       |       |                       |
| I feel most free when I am using a smartphone                       | Between Group      | 13.824        | 5              | 2.765 | 2.412 | .037                  |
|                                                                    | Within Groups      | 268.176       | 234            | 1.146 | E-D   |                       |
|                                                                    | Total              | 282.000       | 239            |       |       |                       |
| People around me say I use my smartphone too often                  | Between Group      | 27.025        | 5              | 5.405 | 2.641 | .024                  |
|                                                                    | Within Groups      | 478.937       | 234            | 2.047 | F-C   |                       |
|                                                                    | Total              | 505.963       | 239            |       |       |                       |

**A: Housewife, B: Farmer, C: worker, D: Civil Servant, E: Artisan, F: Retired**

When Table 26 was examined, it was seen that there was a significant difference between the responses given to "It is possible to get rid of stress with a smartphone; I feel free most when I am using a smartphone, people around me say that I use my smartphone too much” and their maternal occupations.
Tukey multiple comparison test results revealed that pre-service teachers whose mothers were farmers claimed that they got rid of stress through smartphone more than those whose mothers were graduates of primary school. Pre-service teachers whose mothers were artisans felt free when they used smartphones more than those whose mothers were civil servants. Pre-service teachers whose mothers were retired used their smartphones a lot more than those whose mother was a worker.

**Table 27.** ANOVA test results regarding the relationship between pre-service teachers’ fathers’ occupation and dimensions of smartphone addiction scale

| Item                      | Source of Variance | Sum of Square | sd  | Means of Square | F     | p       | Significant Difference |
|---------------------------|--------------------|---------------|-----|-----------------|-------|---------|------------------------|
| Obscuring daily life and tolerance | Between Group     | 7.283         | 4   | 1.821           | 1.765 | .137    |                        |
|                           | Within Groups     | 242.360       | 235 | 1.031           |       |         |                        |
|                           | Total             | 249.643       | 239 |                 |       |         |                        |
| Deprivation symptoms      | Between Group     | 5.164         | 4   | 1.291           | 1.426 | .226    |                        |
|                           | Within Groups     | 212.746       | 235 | .905            |       |         |                        |
|                           | Total             | 217.910       | 239 |                 |       |         |                        |
| Positive expectation      | Between Group     | 4.933         | 4   | 1.233           | 1.317 | .264    |                        |
|                           | Within Groups     | 220.079       | 235 | .937            |       |         |                        |
|                           | Total             | 225.012       | 239 |                 |       |         |                        |
| Cyber-oriented relationship| Between Group     | 8.032         | 4   | 2.008           | 2.970 | .020    | A-C                    |
|                           | Within Groups     | 158.884       | 235 | .676            |       |         |                        |
|                           | Total             | 166.916       | 239 |                 |       |         |                        |
| Overuse                   | Between Group     | 8.179         | 4   | 2.045           | 1.842 | .122    |                        |
|                           | Within Groups     | 260.895       | 235 | 1.110           |       |         |                        |
|                           | Total             | 269.074       | 239 |                 |       |         |                        |
| Social network addiction  | Between Group     | 15.586        | 4   | 3.897           | 2.379 | .053    |                        |
|                           | Within Groups     | 384.909       | 235 | 1.638           |       |         |                        |
|                           | Total             | 400.496       | 239 |                 |       |         |                        |
| Physical symptoms         | Between Group     | 6.591         | 4   | 1.648           | 1.649 | .163    |                        |
|                           | Within Groups     | 234.823       | 235 | .999            |       |         |                        |
|                           | Total             | 241.415       | 239 |                 |       |         |                        |

_A: Retired, B: Farmer, C: Worker, D: Civil Servant, E: Artisan_

When table 27 was examined, dimensions of smartphone addiction scale; obscuring daily life and tolerance (F=1.765; p>.05), deprivation symptoms (F=1.426; p>.05), positive expectation (F=1.317; p>.05), overuse (F=1.842; p>.05), social network addiction (F=2.379; p>.05) physical symptoms (F=1.649; p>.05) were found to have no significant relationship with the occupations of the participants’ fathers. It was also found that there was a significant relationship between the occupations of the participants’ fathers and the dimension of cyber-oriented relations (F = 2.970; p<.05). Tukey multiple comparison test results revealed that pre-service teachers whose fathers were retired were found to differ in their friendships on their smartphones, their friends in their immediate cycle, friendships, family relationships from pre-service teachers whose fathers were workers.
Table 28. ANOVA test results regarding the responses of the participants given to dimensions of smartphone addiction scale and their fathers’ occupations.

| Item                                                                 | Source of Variance | Sum of Square | Sd  | Means of Square | F    | p      | Significant Difference |
|----------------------------------------------------------------------|--------------------|---------------|-----|-----------------|------|--------|------------------------|
| There's nothing more fun than using a smartphone.                    | Between Group      | 17.265        | 4   | 4.316           | 3.871| .005   | B-E                    |
|                                                                      | Within Groups      | 262.031       | 235 | 1.115           |      |        | B-C                    |
|                                                                      | Total              | 279.296       | 239 |                 |      |        |                        |
| I constantly check my smartphone not to miss people's posts on Twitter or Facebook | Between Group      | 21.816        | 4   | 5.454           | 2.914| .022   | D-E                    |
|                                                                      | Within Groups      | 439.784       | 235 | 1.871           |      |        | D-C                    |
|                                                                      | Total              | 461.600       | 239 |                 |      |        |                        |
| I prefer spending time with friends on the smartphone than spending time with real-life or other family members. | Between Group      | 21.262        | 4   | 5.315           | 4.465| .002   | A-E                    |
|                                                                      | Within Groups      | 279.734       | 235 | 1.190           |      |        | A-C                    |
|                                                                      | Total              | 300.996       | 239 |                 |      |        |                        |

A: Retired, B: Farmer, C: Worker, D: Civil Servant, E: Artisan

When Table 28 was examined, it was seen that there is a significant difference between the responses given to the items "there is one thing more fun than using a smartphone, I constantly check Twitter or Facebook not to miss out any posts, I prefer spending time with friends on a smartphone to spending time with real-life friends or other family members." and their fathers’ occupations. Tukey multiple comparison tests revealed that pre-service teachers whose fathers were a farmer claimed that there was nothing funnier than using a smartphone more than those whose fathers were workers and artisans. Pre-service teachers whose fathers were public employees more often check their smartphones to follow social networks than those whose fathers were artisan and workers; pre-service teachers whose fathers were retired like spending time with their friends on their smartphones more often than those whose fathers were artisan and workers.

Table 29. ANOVA test results regarding the means scores and the responses given by pre-service teachers to smartphone addiction scale

| Item                                                                 | Source of Variance | Sum of Square | Sd  | Means of Square | F    | p      | Significant Difference |
|----------------------------------------------------------------------|--------------------|---------------|-----|-----------------|------|--------|------------------------|
| I feel pain in my wrists or the back of my neck when using a smartphone. | Between Group      | 11.798        | 2   | 5.899           | 2.795| .043   | B-A                    |
|                                                                      | Within Groups      | 500.197       | 237 | 2.111           |      |        |                        |
|                                                                      | Total              | 511.996       | 239 |                 |      |        |                        |
|                                                                      | Between Group      | 19.858        | 2   | 9.929           | 5.056| .007   | A-B                    |
|                                                                      | Within Groups      | 465.438       | 237 | 1.964           |      |        |                        |
|                                                                      | Total              | 485.296       | 239 |                 |      |        |                        |

A: 2.00-2.49, B: 2.50-2.99, C: 3.00-4.00

When we examined Table 28, it was seen that there was a significant difference between the views of pre-service teachers regarding the items “I feel pain in my wrists or the back of my neck when using a smartphone, it’s a great feeling to meet more people via smartphone.” and their mean scores. Tukey
multi-comparison test reveals that pre-services with a GPA of 2.50-2.99 feel more pain in the back of their wrists or necks when using a smartphone compared to pre-service teachers with a GPA of 2.00-2.49; pre-service teachers with a GPA of 2.00-2.49 express more that it is a great feeling to meet more people via smartphone than pre-service teachers with a GPA of 2.50-2.99.

Table 30. ANOVA test results regarding pre-service teachers’ class level and dimensions of smartphone addiction scale

| Item                              | Source of Variance | Sum of Square | sd | Means of Square | F     | p     | Significant Difference |
|-----------------------------------|--------------------|---------------|----|----------------|-------|-------|------------------------|
| Obscuring Daily Life and Tolerance | Between Group      | 3.926         | 3  | 1.309          | 1.257 | .290  |                        |
|                                  | Within Groups      | 245.718       | 236| 1.041          |       |       |                        |
|                                  | Total              | 249.643       | 239|               |       |       |                        |
| Deprivation Symptoms             | Between Group      | 9.220         | 3  | 3.073          | 3.475 | .017  | D-A                    |
|                                  | Within Groups      | 208.690       | 236| .884           |       |       |                        |
|                                  | Total              | 217.910       | 239|               |       |       |                        |
| Positive expectation             | Between Group      | 6.968         | 3  | 2.323          | 2.514 | .049  |                        |
|                                  | Within Groups      | 218.044       | 236| .924           |       |       | D-B                    |
|                                  | Total              | 225.012       | 239|               |       |       |                        |
| Cyber-oriented relations         | Between Group      | 2.801         | 3  | .934           | 1.343 | .261  |                        |
|                                  | Within Groups      | 164.115       | 236| .695           |       |       |                        |
|                                  | Total              | 166.916       | 239|               |       |       |                        |
| Overuse                          | Between Group      | 14.009        | 3  | 4.670          | 4.321 | .005  | D-A                    |
|                                  | Within Groups      | 255.065       | 236| 1.081          |       |       | D-B                    |
|                                  | Total              | 269.074       | 239|               |       |       | D-C                    |
| Social Network Addiction         | Between Group      | 8.374         | 3  | 2.791          | 1.680 | .172  |                        |
|                                  | Within Groups      | 392.122       | 236| 1.662          |       |       |                        |
|                                  | Total              | 400.496       | 239|               |       |       |                        |
| Physical Symptoms                | Between Group      | 9.815         | 3  | 3.272          | 3.334 | .020  |                        |
|                                  | Within Groups      | 231.600       | 236| .981           |       |       |                        |
|                                  | Total              | 241.415       | 239|               |       |       |                        |

A: 1. Grade, B: 2. Grade, C: 3. Grade, D: 4. Grade

When Table 30 was examined, it was seen that there was not a significant relationship between the dimensions of smartphone addiction scale; obscuring daily life and tolerance (F=1.257; p>.05), cyber-oriented relations (F=1.343; p>.05), social network addiction (F=1.680; p>.05) and the grades of the pre-service teachers. It was seen that there was a significant relationship between the grades of pre-service teachers and dimensions of deprivation symptoms (F = 3.475; p<.05), positive expectation (F=2.514; p<.05), overuse (F=4.321; p<.05), physical symptoms (F=3.334; p<.05). Tukey multiple comparison test results revealed that 4. grade pre-service teachers perceived smartphones as a fun tool, they claimed that without a smartphone life would be meaningless, using a smartphone calmed them down, and they felt safe more than 1. Grade pre-service teachers. 4. grade pre-service teachers were found to have used their smartphones more than 1., 2. and 3. grade pre-service teachers. 4. grade pre-
service teachers showed more signs of physical health when using a smartphone compared to 1., and 2. Grade pre-service teachers (such as back pain, headache).

Table 31. ANOVA test results between pre-service teachers’ annual reading level and dimensions of smartphone addiction scale.

| Item                        | Source of Variance | Sum of Square | sd | Means of Square | F     | p      | Significant Difference |
|-----------------------------|--------------------|---------------|----|-----------------|-------|--------|------------------------|
| Obscuring Daily Life and Tolerance | Between Group      | 9.730         | 3  | 3.243           | 3.190 | .024   |                        |
|                             | Within Groups      | 239.913       | 236| 1.017           |        |        | B-D                    |
|                             | Total              | 249.643       | 239|                 |       |        |                        |
| Deprivation symptoms        | Between Group      | 14.743        | 3  | 4.914           | 5.709 | .001   | A-D                    |
|                             | Within Groups      | 203.167       | 236| .861            |        |        | A-C                    |
|                             | Total              | 217.910       | 239|                 |       |        | A-B                    |
| Positive expectations       | Between Group      | 6.046         | 3  | 2.015           | 2.172 | .092   |                        |
|                             | Within Groups      | 218.966       | 236| .928            |        |        |                        |
|                             | Total              | 225.012       | 239|                 |       |        |                        |
| Cyber-oriented relations    | Between Group      | 3.119         | 3  | 1.040           | 1.498 | .216   |                        |
|                             | Within Groups      | 163.797       | 236| .694            |        |        |                        |
|                             | Total              | 166.916       | 239|                 |       |        |                        |
| Overuse                     | Between Group      | 9.299         | 3  | 3.100           | 2.816 | .060   |                        |
|                             | Within Groups      | 259.775       | 236| 1.101           |        |        |                        |
|                             | Total              | 269.074       | 239|                 |       |        |                        |
| Social network addiction    | Between Group      | 13.673        | 3  | 4.558           | 2.781 | .042   |                        |
|                             | Within Groups      | 386.822       | 236| 1.639           |        |        |                        |
|                             | Total              | 400.496       | 239|                 |       |        |                        |
| Physical symptoms           | Between Group      | 13.851        | 3  | 4.617           | 4.788 | .003   |                        |
|                             | Within Groups      | 227.564       | 236| .964            |        |        |                        |
|                             | Total              | 241.415       | 239|                 |       |        |                        |

A: 1-5, B: 6-10, C: 11-15, D: 16+

When table 31 was examined, it was seen that there was not any significant relationship between the dimensions of positive expectations (F=2.172; p>.05), cyber-oriented relations (F=1.498; p>.05), overuse (F=2.816; p>.05) and pre-service teachers’ annual book readings. It was seen that there was a significant relationship between pre-service teachers’ annual book reading rates and dimensions of obscuring daily life and tolerance (F = 3.190; p<.05), deprivation symptoms (F=5.709; p<.05), social network addiction (F=2.781; p<.05), physical symptoms (F=4.788; p<.05). Tukey multi-comparison test revealed that pre-service teachers who read books between 6-10 in a year delayed their responsibilities, failed to concentrate on their tasks and ruined their sleeping habits more than those who read 16 and above books a year. Pre-service teachers who read books between 1 and 15 a year were found not to consider anything else more fun than a smartphone, felt free when they were using their smartphones and could not do without their smartphones more than those who read 16 and above books a year. Pre-service teachers who read books between 1-5 a year checked their social networks more often than those who read books between 16 and above a year. Pre-service teachers who read books between 5-10 years
had more physical health problems due to excessive phone use than those who read books between 16 and above a year.

Table 32. ANOVA test results regarding the time spent by pre-service teachers on smartphones and dimensions of smartphone addiction scale

| Item                               | Source of Variance | Sum of Square | sd | Means of Square | F    | p      | Significant Difference |
|------------------------------------|--------------------|---------------|----|-----------------|------|--------|------------------------|
| Obscuring Daily Life and Tolerance | Between Group      | 50.105        | 4  | 12.526          | 14.753 | .000   | D-A, D-B,              |
|                                    | Within Groups      | 199.538       | 235| .849            |       |        | D-C, E-A, E-B, E-C    |
|                                    | Total              | 249.643       | 239|                 |       |        |                        |
| Deprivation symptoms               | Between Group      | 30.166        | 4  | 7.541           | 9.440 | .000   | E-A                    |
|                                    | Within Groups      | 187.744       | 235| .799            |       |        |                        |
|                                    | Total              | 217.910       | 239|                 |       |        |                        |
| Positive expectation               | Between Group      | 26.317        | 4  | 6.579           | 7.782 | .000   | C-A, D-A,              |
|                                    | Within Groups      | 198.694       | 235| .846            |       |        | E-A, E-B,              |
|                                    | Total              | 225.012       | 239|                 |       |        | E-C                    |
| Cyber-oriented relations           | Between Group      | 11.821        | 4  | 2.955           | 4.478 | .002   | E-C, D-C               |
|                                    | Within Groups      | 155.094       | 235| .660            |       |        |                        |
|                                    | Total              | 166.916       | 239|                 |       |        |                        |
| Overuse                            | Between Group      | 35.532        | 4  | 8.883           | 8.938 | .000   | D-B, E-A, E-B, E-C    |
|                                    | Within Groups      | 233.542       | 235| .994            |       |        |                        |
|                                    | Total              | 269.074       | 239|                 |       |        |                        |
| Social Network addiction           | Between Group      | 49.767        | 4  | 12.442          | 8.336 | .000   | D-A, D-B,              |
|                                    | Within Groups      | 350.729       | 235| 1.492           |       |        | E-A, E-B,              |
|                                    | Total              | 400.496       | 239|                 |       |        | E-C                    |
| Physical symptoms                  | Between Group      | 20.994        | 4  | 5.249           | 5.596 | .000   | E-B                    |
|                                    | Within Groups      | 220.421       | 235| .938            |       |        |                        |
|                                    | Total              | 241.415       | 239|                 |       |        |                        |

A: 0-1 hour, B: 1-2 hour, C: 2-3 hours, D: 3-4 hours, E: more than 4 hours

When Table 32 was examined, it was seen that there was a significant relationship between the number of books that pre-service teachers read in a year and dimensions of obscuring daily life and tolerance (F=14.753; p<.05), deprivation symptoms (F=9.440; p<.05), positive expectation (F=7.782; p<.05), cyber-oriented relations (F=4.478; p<.05), overuse (F=8.938; p<.05), social network addiction (F=8.336; p<.05), physical symptoms (F=5.596; p<.05). Tukey multi-comparison test revealed that pre-service teachers who spent 3-4 hours and more than 4 hours failed to make their tasks on time, had difficulty in concentrating, did not have enough sleep and used their smartphone more than those who spent 0-3 hours on their smartphones. Pre-service teachers who used their smartphone for 4 hours and above were found to consider their smartphones as an entertainment tool and expressed that they could not do without their smartphones more than those who used their smartphones between 0-1 and 3-4 hours. Pre-service teachers who used their smartphones for 4 hours and above calmed down, felt more secure and got rid of stress when they were using their smartphones more than those who used their smartphones for 0-3 hours, 2-3 hours, 3-4 hours and 0-1 hour. Pre-service teachers who used their
smartphones for 3-4 hours had a better time with their friends on the smartphone than pre-service teachers who used their smartphone for 2-3 hours. Pre-service teachers who used their smartphones for 3-4 hours could not do without their smartphones, did not like being disturbed when they were busy with their smartphones and could not make a day with the batteries of their phones more than those who used their smartphones for 1-2 hours. Pre-service teachers who used their smartphones for 4 hours and above cannot do without their smartphones, did not like being disturbed when they were busy with their smartphones and cannot make a day with the batteries of their phones more than those who used their smartphones for 0-3 hours. Pre-service teachers who used their smartphones for 3-4 hours checked their social media accounts more often than those who used their smartphones for 0-1 and 1-2 hours. Pre-service teachers who used their smartphones for 4 hours and above checked their social media accounts more often than those who used their smartphones for 0-3 hours. Pre-service teachers who used their smartphones for 4 hours and above suffered from physical health problems more often than those who used their smartphones for 1-2 hours.

Table 35. Correlations between dimensions of smartphone addiction scale

| Obscuring Daily Life and Tolerance | Deprivation symptoms | Positive expectation | Cyber-oriented relations | Overuse | Social network addiction | Physical symptoms |
|-----------------------------------|----------------------|----------------------|-------------------------|---------|-------------------------|------------------|
| Obscuring Daily Life and Tolerance | 1                    |                      |                         |         |                         |                  |
| Deprivation symptoms              | .566**               | 1                    |                         |         |                         |                  |
| Positive Expectation              | .376**               | .526**               | 1                       |         |                         |                  |
| Cyber-oriented relations           | .322**               | .543**               | .331**                  | .397**  | .417**                  | 1                |
| Overuse                           | .572**               | .615**               | .397**                  | .417**  | .473**                  | 1                |
| Social network addiction          | .500**               | .512**               | .439**                  | .382**  | .473**                  | 1                |
| Physical symptoms                 | .500**               | .463**               | .267**                  | .245**  | .429**                  | .315**           |

**significant at p<0.01 level

When Table 35 was examined, it was found that there was a positive and medium level relationship between the dimensions of smartphone addiction scale, which are obscuring daily life and tolerance, deprivation symptoms, positive expectation and cyber-focused relationships, overuse, social network addiction and physical symptoms.

4. Discussion

Dealing with a particular job or behaviour can stress a person, as well as produce a gratifying behaviour (Chakraboty, Basu & Vi junaya, 2012). The use of social media, in particular, paves the way for individuals to become addicted to smartphones (Noyan, Darçın, Nurmedov, Yilmaz, & Dilbaz, 2015). One of the research on smartphone addiction levels was conducted by Çalışkan et al. In his (2017) research, computer and instructional technologies indicated that smartphone addiction levels of pre-service teachers were moderate. Hayirci (2019) conducted a study and found that high school
students’ levels of social anxiety and loneliness increased as their smartphone addiction levels increased. Similar results were obtained in the research of Doğan and Tosun (2016). In research conducted by Doğrusever (2015) on secondary school students, there was no relationship between internet addiction and their loneliness levels. When the research was examined, it was observed that as the grade levels of the students increased, the levels of addiction and loneliness and anxiety also increased.

The research conducted by Hayırcı (2019) and Meral (2017) on some high school students, the research conducted by Kuyucu (2017) and Süler (2016) on some college students showed that there was no statistically significant difference between the smartphone addiction levels and gender of the participants. In the research conducted by Kumcağız, Terzi, Koç and Terzi (2020), it was found that there was a significant difference between the smartphone addiction levels of college students in favour of female ones. Female pre-service teachers were found to feel safe, free and enthusiastic when using the smartphone, and they were also found to feel impatient and frustrated when they did not have their smartphones in their hands more than male pre-service teachers. It was also found that female pre-service teachers felt the need to reuse their smartphones just after they stopped using them; they also believed that their life would be meaningless without their smartphones, they could not make without their smartphones, they always thought about their smartphones even when they were not using them, they would never stop using their smartphones even if it greatly disturbed their daily life, they would prefer to search on their smartphones rather than asking other people.

Kuyucu (2017) conducted on some university students and found no significant relationship between the ages of the students and their smartphone addiction levels. It was found in the study that pre-service teachers in the 20-21 age range constantly checked their smartphones not to miss the posts on Twitter and Facebook more than those in the range of 22 and above. Pre-service teachers in the 20-21 age range preferred to search through their smartphones instead of asking people for the information they wanted to obtain more than those in the 18-19 age range and checked their status on their social networks as soon as they woke up.

Pre-service teachers who have spent most of their lives in metropolis felt impatient and frustrated when they did not have their smartphones in their hands, they would never stop using their smartphones even if it affected their daily lives to a large extent more than those who have spent most of their lives in cities. Pre-service teachers who considered their economic status high cannot fulfil their daily tasks, and suffered from physical problems due to their excessive phone use more than those who considered their economic status average. Pre-service who considered their economic status high put smartphones in the centre of their lives, calmed down, felt secure and happy when they were using their smartphones, preferred spending time with their friends on their smartphone to other friends or family members, overused their smartphone and checked their status on their social media accounts more than those who considered their economic status low. Pre-service teachers who considered their economic status high calmed down when they had their smartphones in their hands and felt confident more than those who considered their economic status average.

Pre-service teachers whose mothers were graduates of elementary school, secondary school and suffered from lack of concentration due to using smartphones more than those whose mothers were literate. Pre-service teachers whose mothers were university graduates took their smartphone with them even if they had to visit the toilet more than those whose mothers were graduates of primary school. Pre-service teachers whose fathers were high school graduates had more positive attitudes when using a smartphone than pre-service teachers whose fathers were primary school graduates. Pre-service teachers whose fathers were university graduates were using smartphones in an extreme way compared to pre-service teachers whose fathers were primary school graduates.
Pre-service teachers whose mothers were a farmer claimed that they got rid of stress through a smartphone more than those whose mothers were housewives. Pre-service teachers whose mothers were an artisan felt free the most when they were using a smartphone more than those whose mothers were civil servants. The pre-service teachers whose mothers were retired used their smartphones more than those whose mothers were a worker. Pre-service teachers whose fathers were retired claimed that there was a difference between the friends on their smartphones and their immediate circles, family members more than those whose fathers were a worker. Pre-service teachers whose fathers were a farmer stated that there was nothing more fun than using a smartphone more than those whose fathers were an artisan and worker. Pre-service teachers whose fathers were civil servants constantly checked their social media accounts more often than those whose fathers were an artisan and worker; pre-service teachers whose fathers were retired had more fun spending time with their friends on their smartphones more than those whose fathers were an artisan and worker.

Hayırcı (2019) and Meral (2017) conducted a study on some high school students and found that students with low-grade point averages had higher smartphone addiction scores. In the research, it was also found that pre-service teachers with GPA 2.50-2.99 grade point average felt pain in their wrists and the back of their neck more than those whose GPA was between 2.00-2.49 when they were using their smartphones. Pre-service teachers whose GPAs were between 2.00-2.49 were found to state that it was a great pleasure to meet more people through smartphones more than those whose GPA was 2.50-2.99.

Hayırcı (2019) and Eker (2017) conducted a study and found that there was a statistically significant difference between smartphone addiction levels and students’ grades. Kuyucu (2017) conducted research on some university students and found that there was no significant relationship between grade levels and smartphone addiction levels. Hakkari (2018) conducted a study on some 1st-year university students and found that first-year students had high levels of smartphone addiction. Karakuyu and Ata (2019) conducted a study on some university students and found no significant difference between grade levels of university students and their smartphone addiction. It was found in the study that 4th-grade students find smartphones as entertaining tools, that they found life meaningless without their smartphones, that they calmed down and felt secure when they were using smartphones more than 1st-grade students. 4th-grade pre-service teachers overused their smartphones more than 1st, 2nd and 3rd-year students. 4th-grade pre-service teachers exhibited physical health symptoms when they were using their smartphones more than the 1st and 2nd-grade students (such as back pain and headache).

Kumcak, Terzi, Koç and Terzi (2020) conducted research and found that university students spent the majority of their free time using smartphones. It was found in the research that pre-service teachers who read books between 6-10 a year tended to delay their responsibilities due to their smartphones, failed to concentrate on their tasks and had sleep disorder more than those who read books 16 and above a year. Pre-service teachers who read books between 1-15 a year claimed that they could not imagine anything else more fun than their smartphones, felt free when they were using smartphones and could not do without their smartphones more than those who read 16 books and above a year. Pre-service teachers who read books between 1-5 in a year were constantly checking their social network accounts more than those who read books between 16 and above in a year. Pre-service teachers who read books between 5-10 in a year had physical health problems due to excessive phone use more than those who read books 16 and above.

Vanden Abeele and Postma-Nilsenova (2018) concluded in their study that dealing with a phone during any interaction distracted more than any other element. Individuals prefered smartphones and the internet for a variety of reasons wanted to create environments where they could meet their social needs in real life instead of the virtual world and increased their social skills (Özteke Kozan, Kavaklı, Ak & Kesisic, 2019). Bak (2019) conducted a study on some X generation individuals and found that 40.0% of them spent time on their smartphones for 4-6 hours per day, and 30.0% of Y generation spent time on
their smartphones for 4-6 hours a day. In the research, pre-service teachers who spent 3-4 hours and more than 4 hours a day could not fulfil their tasks on time due to their smartphone using habits, failed to concentrate on their tasks and had a sleep disorder and used their smartphone more than they planned compared to those who spent time on their smartphones for 0-3 hours a day.

Pre-service teachers who used their smartphone very much saw their smartphones as a means of entertainment and felt that they could not do without their smartphone compared to those who used their smartphones between 0-1 hours and 3-4 hours. Pre-service teachers who used their smartphone for over 4 hours calm down, felt confident and got rid of stress when they were using their smartphones compared to those who used their smartphones for 0-3 hours a day. Pre-service teachers who used their smartphone for over 2-3 and 3-4 hours calmed down, felt confident and got rid of stress when they were using their smartphones compared to those who used their smartphones for 0-1 hour a day. Pre-service teachers who used their smartphones for 3-4 hours had a better time with their friends on their smartphone than pre-service teachers who used their smartphone for 2-3 hours. Pre-service teachers who used their smartphone for 3-4 hours and above cannot give up their smartphones, did not like being disturbed by someone else when they were using their smartphones, claimed that their phone batteries were not enough for a whole day compared to those who used their smartphones for 0-3 hours. Pre-service teachers who used their smartphones for 3-4 hours a day constantly checked their social status compared to those who used their smartphones for 0-1 hour a day. Pre-service teachers who used their smartphones for 4 hours and above a day constantly checked their social status compared to those who used their smartphones for 0-3 hours a day. Pre-service teachers who used their smartphones for 4 hours and above a day constantly checked their social status compared to those who used their smartphones for 0-3 hours a day. Pre-service teachers who used their smartphones for 4 hours and above a day suffered from physical health problems more often than those who used their smartphones for 1-2 hours a day.

5. Conclusion

When the results of the research were examined, it was seen that pre-service Turkish teachers used their smartphones more than they planned, that there was something more fun than using a smartphone, that they felt joyful and enthusiastic when using a smartphone, that they relaxed and felt free when using a smartphone, that using a smartphone was not the most fun thing in their lives, their relationship with their friends on their smartphones were not more sincere than their real-life friends; that they would not rather spend time with their friends on their smartphones than spend time with their real-life friends or other family members, that their friends on their smartphones did not understand them better than their friends in real life, that not being able to use their smartphone can not be as painful as losing a friend, that their phone battery was not adequate even when it was full, that they would never stop using their smartphones even if it greatly affected their daily life, that they checked their social media accounts as soon as they woke up, that they did not experience dizziness or blurred vision when using a smartphone. It was seen that pre-service teachers were neutral about if they were feeling tired or not as a consequence of their excessive use of a smartphone, continuing their life without a smartphone, feeling irritable and impatient when it was not possible to use their smartphones, that it was a wonderful feeling to meet more people through their smartphones, that it was possible to get rid of stress and they felt safe when they were using their smartphone, that they took their phones with them when they went to the toilet, getting annoyed when their smartphone was busy, that they constantly checked their smartphones to check their social media accounts. Some pre-service teachers had repeatedly tried to shorten the time they spent on their smartphones and had succeeded, as well as those who had failed. In the study, it is
seen that there is a significant difference between the pre-service teachers' smartphone addiction levels and their gender, age, grade point averages, grade levels, reading levels, time spent on daily smartphones and the Internet, where they spend their lives, their economic status, their mothers' graduation status, and their mothers' professions.

6. Ethics Committee Approval

The author confirms that ethical approval was obtained from Çanakkale Onsekiz Mart University (Approval Date: 06/04/2020).

References

Aggül, M. (2019). Tip fakültesi öğrencilerinde akıllı telefon bağımlılığının yaygınluğu, öngörücüleri, karakter-mizaç özellikleri ile olan ilişkisi ve akademik başarıya etkisi (Tıpta Uzmanlık Tezi), Sağlık Bilimleri Üniversitesi Erenköy Ruh ve Sinir Hastalıkları Eğitim ve Araştırma Hastanesi, İstanbul.

Alfawareh, H. M., & Jusoh, S. (2014). Smartphones usage among university students: Najran university case. International Journal of Academic Research, 6(2), 321-326. DOI: 10.7813/2075-4124.2014/6-2/B.48

Bak, G. (2019). X, Y ve Z kuşağında nomofobi: Nitel bir araştırma. Sosyal, Beşeri ve İdari Bilimler Dergisi. 2(5), 288-302. DOI:10.26677/TR1010.2019.127

Büyükgebiz Koca, E. (2019). Akıllı telefon bağımlılığı ve sosyotelizm üzerine bir yazının taraması. Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi (ASEAD). 6(6), 366-378. Retrieved from https://dergipark.org.tr/tr/pub/asead/issue/47256/595893

Chakraborty, K., Basu, D., & Vijaya, K. G. (2012). Internet addiction: Consensus, controversies, and the way ahead. East Asian Arch Psychiatry, 20, 123-132.

Çalışkan, N., Yalçın, O., Aydin, M. ve Ayık, A. (2017). BÖTE öğretmen adaylarının akıllı telefon bağımlılık düzeylerini belirlemeye yönelik bir çalışma. Uluslararası Avrasya Sosyal Bilimler Dergisi, 8(26), 111-125. http://www.ijoess.com/Makaleler/693118242_7.%2020111-125nihat%20c%3a7al%2c4%2c4%2c5%2c9kcan.pdf

Çelik, Ö. (2019). Eğitim fakültesi öğrencilerinin akıllı telefon bağımlılığı düzeyleri ve başa çıkma stratejilerinin incelenmesi (Unpublished Master Thesis). Fırat Üniversitesi Eğitim Bilimleri Enstitüsü Bilgisayar ve Öğretim Teknolojileri Eğitimi Anabilim Dalı, Elazığ.

Demirci, K., Orhan, H., Demirdas, A., Akpınar, A. and Sert, H. (2014). Validity and reliability of the Turkish Version of the Smartphone Addiction Scale in a younger population. Bulletin of Clinical Psychopharmacology, 24(3), 226-234. DOI: 10.5455/bcp.20140710040824

Doğan, U. ve Tosun, N. İ. (2016). Lise öğrencilerinde problemli akıllı telefon kullanımının sosyal kaygısı ve sosyal ağların kullanımına aracılık etkisi. Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 1(1), 99-128. https://doi.org/10.14520/adyusbd.66762

Doğrusever, C. (2015). ÖN ergenlerin internet bağımlılığının yalnızlık, sosyal beceriler ve bazı sosyo demografik değişkenler açısından incelenmesi (Unpublished Master Thesis). Çukurova Üniversitesi, Sosyal Bilimler Enstitüsü, Adana.

Eker, Ö. (2016), Lise öğrencilerinin akıllı telefon bağımlılıkları ile öznel iyi oluşlarının incelenmesi (Unpublished Master Thesis). Nişantaşı Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.
Güney, B. (2017). Dijital bağımlılığın dijital kültürü dönüşmesi: Netlessfobi. *Yeni Medya Elektronik Dergisi, 1*(2), 207-213. https://www.guvenliweb.org.tr/dosya/ou8p3.pdf

Hakkari, F. (2018). Meslek yüksekokulu öğrencilerinin nomofobi düzeylerinin belirlenmesi: Kırıkkale meslek yüksekokulu örneği. *Atlas International Referred Journal on Social Sciences*. 4(10), 786-797. DOI: 10.31568/atlas.128

Hayrcı, B. (2019). Lise öğrencilerinin akıllı telefon bağımlılığı ile sosyal kaygı ve yalnızlık düzeyleri arasındaki ilişkinin incelenmesi (Unpublished Master Thesis). Ordu Üniversitesi Sosyal Bilimler Enstitüsü Rehberlik ve Psikolojik Danışmanlık Anabilim Dalı.

Kadi, F. ve Öztunç, H. (2015). Üniversite öğrencilerinin aylık harcamaları ile cep telefonu kullanımları arasındaki ilişki üzerine ampirik bir çalışma. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, 44*, 168-178. Retrieved from https://dergipark.org.tr/tr/pub/dpusbe/issue/4786/66052

Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., Mızrak Şahin, B., Çulha, İ. ve Babadağ, B. (2016). Sanal dünyanın kronolojik bağımlılığı: Sosyotelizm (phubbing). *Addicta: The Turkish Journal on Addiction*, 3, 223-269. http://dx.doi.org/10.15805/addicta.2016.3.0013

Karakuyu, A. ve Ata, F. (2019). Ön lisans öğrencilerinin nomofobilerinin bazı değişkenlere incelenmesi. *Uluslararası Sosyal Araştırmalar Dergisi, 12*(67), 908-915. http://dx.doi.org/10.17719/fjistr.2019.3779

Karasar, N. (2013). *Bilimsel araştırmama yöntemi* (25. Basım). Ankara: Nobel Yayın Dağıtım.

Kumcağız, H, Terzi, Ö, Koç, B. ve Terzi, M. (2020). Üniversite öğrencilerinde akıllı telefon bağımlılığı. *İnsan ve Toplam Bilimleri Araştırmaları Dergisi*, 9(1), 13-39. Retrieved from http://www.itobiad.com/tr/issue/53155/629737

Kuss, D. R., & Griffiths, M. D. (2011). Online social networking and addiction: A review of the psychological literature. *International Journal of Environmental Research and Public Health, 8*, 3528-3552.

Kuyucu, M. (2017). Gençlerde akıllı telefon kullanımı ve akıllı telefon bağımlılığı sorunsalı: Akıllı telefon (kolik) üniversite gençliği. *Global Media Journal TR Edition, 7*(14), 328-359.

Laudon, K. J., & Laudon, J. P. (2012). *Management information systems: Managing the digital firm*. Prentice-Hall Boston, USA.

Meral, D. (2017). Ortaöğretim öğrencilerinde akıllı telefon bağımlılığının yalnızlık, yaşam doyumu ve bazı kişisel özellikler bakımından incelenmesi (Yayınlanmamış Yüksek Lisans Tezi). Erzincan Üniversitesi Sosyal Bilimler Enstitüsü, Erzincan.

Noyan, C. O., Darçın, A., Nurmedov, S., Yılmaz, O. ve Dilbaz, N. (2015). Akıllı telefon bağımlılığı ölçeğinin kısa formunun üniversite öğrencilerinde türkçe geçerlilik ve güvenilirlik çalışması. *Anadolu Psikiyatri Dergisi*, 16, 73-81.

Ölmeztoprak, V. (2019). Üniversite öğrencilerinde dikkat eksikliği hiperaktivite bozukluğu ve dürtüselliğin akıllı telefon bağımlılığının üzerine etkisi (Tıpta Uzmanlık Tezi), İnönü Üniversitesi Tip Fakültesi Psikiyatri Anabilim Dalı, Malatya.

Özata, M. (2019). Akıllı telefon bağımlılığı belirtilerinin uzku kalitesi ve yaşam kalitesi üzerine etkisi (Unpublished Master Thesis), Beykent Üniversitesi Sosyal Bilimler Enstitüsü Psikoloji Anabilim Dalı Klinik Psikoloji Bilim Dalı, İstanbul.
Özette: Kozan, H. İ., Kavaklı, M., Ak, M., Kesic, Ş. (2019). Akıllı telefon bağımı, genel aidiyet ve mutluluk arasındaki ilişkilerin yapısı eşitlik modellmesi ile incelenmesi. Klinik Psikiyatri Dergisi, 22, 436-444, DOI: 10.5505/kpd.2019.87587

Sabırlı, B. (2018). Üniversite öğrencilerindeki akıllı telefon kullanım sikliğinin benlik saygısı ve çeşitli değişkenlerle ilişkisi (Unpublished Master Thesis). Üsküdar Üniversitesi Sosyal Bilimler Enstitüsü Klinik Psikoloji Anabilim Dalı, İstanbul.

Süler, M. (2016), Akıllı telefon bağımlılığının öznel mutluluk düzeyine etkisini çeşitli değişkenler açısından incelemesi (Unpublished Master Thesis), Eğitim Bilimleri Enstitüsü, Sakarya Üniversitesi, Sakarya.

Şencan H. (2005). Sosyal ve davranışsal ölçülerde güvenilirlik ve geçerlilik (1. Baskı). Ankara: Seçkin Yayıncılık.

Takao, M., Takahashi, S., & Kitamura, M., (2009). Addictive personality and problematic mobile phone use. CyberPsychology & Behavior, 12, 501-507.

Totten, J. W., Lipscomb, T. J., Cook, R. A., & Lesch, W. (2005). General patterns of cell phone usage among college students: A four-state study. Services Marketing Quarterly, 26(3), 13-39. DOI: 10.1300/J396v26n03_02

Tuncer, A. S. (2013). Sosyal medya içerisinde (26). Eskişehir: Anadolu Üniversitesi Açıkgöretim Yayınları.

Ural, A. ve Kılıç, İ. (2006). Bilimsel araştırma süreci ve SPSS ile veri analizi. Ankara: Detay Yayıncılık.

Vanden Abeele, M. M., & Postma-Nilsenova, M. (2018). More than just gaze: An experimental vignette study examining how phone-gazing and newspaper-gazing and phubbing-while-speaking and phubbing-while-listening compare in their effect on affiliation. Communication Research Reports, 35(4), 303-313. https://doi.org/10.1080/08824096.2018.1492911

Türkçe öğretmeni adaylarının akıllı telefon bağımlılık düzeylerinin çeşitli değişkenler açısından incelenmesi

Öz

Bu araştırmanın amacı Türkçe Öğretmeni adaylarının akıllı telefon bağımlılık düzeylerinin çeşitli değişkenler açısından incelenektir. Araştırmada nicel araştırma modellерinden iliskisel tarama modelli kullanılmıştır. Araştırmanın örneklem grubunu bir devlet üniversitesinin Türkçe Eğitimi Anabilim Dalı’nda öğrenim görmekte olan 178 öğretmen adayı oluşturmaktadır. Araştırmada Demirci, Orhan, Demirdas, Akpınar ve Sert (2014) tarafından Türkçe uyarlanan Akıllı Telefon Bağımlılığı Ölçeği kullanılmıştır. Araştırmanın veri analizi SPSS 25 paket programı yoluyla yapılmıştır. Araştırıldan elde edilen verilerle tanımlayıcı istatistiksel analizler, t-testi ve ANOVA istatistiksel analizler ve korelasyon analizi yapılmıştır. Araştırmanın elde edilen bulgular incelendiğinde
Türkçe Öğretmeni adaylarının, akıllı telefonlarını planladıklarından daha fazla kullandıkları; kadın öğretmen adaylarının, erkek öğretmen adaylarına göre akıllı telefon bağmlılık düzeylerinin yüksek olduğu görülmektedir. Öğretmen adaylarının akıllı telefon bağmlılık düzeyleri ile cinsiyetleri, yaşları, ekonomik durumları, yaşamlarını çoğunu geçirdikleri yer, anne-baba eğitim durumu, anne-baba meslekleri, not ortalamaları, sınıf düzeyleri, okduları kitap sayları, sosyal medyada ve internette geçirdikleri süreler arasında anlamli bir farklılığın olduğu görülmektedir.

Anahtar sözcükler: akıllı telefon; bağmlılık; Türkçe öğretmeni adayı

AUTHOR BIODATA

Hulusi Geçgel graduated from Buca Education Faculty Turkish Language and Literature Teaching department. He received his PhD in Trakya University Institute of Social Sciences, New Turkish Literature. His areas of interest include Turkish as a mother tongue and a foreign language. He is currently working as an assistant professor at Çanakkale Onsekiz Mart University, Faculty of Education, Department of Turkish and Social Sciences.