

## The Effect of Social Media Addiction, Nomophobia, and Netlessphobia on Students' Online Shopping Addictions During the Covid-19 Pandemic

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### Abstract

The excessive use of internet-based technologies and social media platforms during the COVID-19 pandemic has caused problems such as social media addiction, nomophobia, netlessphobia, and online shopping addiction in individuals. This research aims to examine whether social media addiction, nomophobia, and netlessphobia affect students' online shopping addiction. An online survey was conducted on 439 students to test the research model and hypotheses. SPSS 25.0 packet program was used, and reliability, exploratory factor analysis, descriptive analyses, correlation and multiple regression analysis were applied to the data. Multiple regression analysis results revealed that social media addiction, nomophobia, and netlessphobia influence students' online shopping addiction.

**Keywords:** *Online Shopping Addictions, Social Media Addiction, Nomophobia, Netlessphobia.*

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## 1. INTRODUCTION

Governments have begun to impose restrictions, quarantines, and social distancing policies in the social, economic, and educational areas to mitigate the effect and growing prevalence of the COVID-19 pandemic (Koch et al., 2020). These applications have effectively adopted online activities instead of face-to-face activities and virtual realization of some activities in individuals' daily lives (Mouratidis & Papagiannakis, 2021).

Internet-based technologies have begun to be used for a variety of applications, including social communication, computer gaming, distance education, homework, and information gathering. Thus, it increased the average daily time spent on the Internet and online addiction (Öztürk & Ayaz-Alkaya, 2021). This situation has caused individuals to use smartphones more and experience nomophobia. However, it has also caused many individuals to experience fear of staying in environments without the Internet.

During the COVID-19 pandemic, social media platforms have become a source to look at news (Alheneidi et al., 2021) and have helped communicate with friends and family to reduce the anxiety and boredom of individuals (González-Padilla & Tortolero-Blanco, 2020). However, while social media has a beneficial role in this term, its overuse has increased the possibility of individuals becoming more reliant on social media (Zhao & Zhou, 2021). The cessation of the activities of retail stores has made online shopping the only way for individuals to meet their needs (Koch et al., 2020). This situation has revealed problems such as online shopping addiction in individuals (Sarıgedik & Ölmez, 2021).

This research aimed to see if social media addiction, nomophobia, and netlessphobia affect online shopping addiction. This research is structured into five main sections. The introduction, the first section, provides an overview of the study's purpose and background information. In the second section, the variables of social media addiction, nomophobia, netlessphobia, and online shopping addiction are discussed. In the third section, the effect of social media addiction, nomophobia, and netlessphobia on online shopping addiction was examined using data obtained from 439 undergraduate students who received their education distance or online during the COVID-19 period. During the data analysis phase, exploratory factor analysis was applied to assess the validity of the measurement scales, and reliability analysis was applied to evaluate their reliability. Descriptive analyses were applied to examine demographic information and participant responses to survey statements. Multiple regression analysis was applied to investigate whether there is an effect between the variables. SPSS package programme was used to analyse the data. In the last section of the study, the study was evaluated in general with the findings obtained and recommendations presented.

## 2. LITERATURE REVIEW

### 2.1. Social Media Addiction

In the literature, there are numerous definitions of social media. Safko (2010) defines social media by considering the words social and media separately. According to Safko, the word social refers to the instinct necessary for human beings to communicate with others from the moment they exist. Individuals need to be part of groups of like-minded people where they can freely share their ideas and experiences. On the other hand, the term media refers to technologies such as the telegraph and telephone used when communicating with other individuals. According to Kaplan and Haenlein (2010), social media is a collection of internet-based applications that enable users to create and share information and is founded on the ideological and technological foundations of Web 2.0. According to Lau (2017), social media are programmes, services, and systems that enable the reorganisation and sharing of generated material.

By using social media, individuals can gain many advantages. Drahošová and Balco (2017) The most important advantages of using social media are information exchange, communication, and data sharing. According to Yapraklı and Mutlu (2020), social media is essential for searching for products, obtaining information, and finding the latest news. With social media, individuals can be more knowledgeable in evaluating and selecting goods and services by researching goods and services through social media platforms before making a purchase decision. Sharma et al. (2018) state that individuals can obtain information through social media by establishing relationships with other users in line with their needs. Bekdemir and Tagrikulu (2018) emphasize that social media removes physical and economic barriers for individuals. Individuals can enter groups they cannot enter in real life and express themselves more easily with social media.

Despite its many advantages, undesirable results may occur after unconscious and excessive use of social media. According to Drahošová and Balco (2017), the most critical disadvantage is internet addiction. Social media use, which is highly related to internet addiction, stands out among young individuals, and excessive use can create psychological and social problems for youth (Çömlekçi & Başol, 2019). One of these problems is the fear of missing out (FoMO), a behavioural disorder that is common among individuals who spend a lot of time on social media. According to Hoşgör et al. (2017), FoMO comes from the fear of missing a post or a status update on social media by the individual's social circle or peers. It is seen that individuals with a high level of this fear become addicted to social media (Alt & BonielNissim, 2018). Cao et al. (2020) defined social media addiction as spending excessive time on social media sites. According to Hou et al. (2019), individuals suffering from social media addiction have an intense fear of social media as well as an uncontrollable want to check in and use social media.

## 2.2. Nomophobia

Technologies for communication and information have become an essential component of our daily lives (Yildirim & Correia, 2015; Gutiérrez-Puertas et al., 2019). With the spread of mobile devices, individuals quickly adopted these technologies (Yildirim & Correia, 2015), and as a result, new lifestyles and communication languages began to develop individuals (Gurbuz & Ozkan, 2020).

Smartphones make their daily lives easier by providing many advantages to their users (Gurbuz & Ozkan, 2020). Individuals have begun to use smartphones to execute many tasks at once, including shopping, e-mailing, watching movies, playing games, looking for data, and communicating with others, regardless of time or place. While using smartphones provides apparent benefits, such as meeting the basic needs of individuals, it can cause some problems (Yildirim & Correia, 2015). Smartphone overuse is related to smartphone addiction and problematic usage of these Technologies (Márquez-Hernández et al., 2020). As a result of problematic smartphone usage, the relationship quality of individuals can be adversely affected, causing the person to become disconnected from their environment (Gutiérrez-Puertas et al., 2019). Also, the anxiety and fear of being separated from the smartphone have caused a new disease known as nomophobia (Márquez-Hernández et al., 2020). King et al. (2013) emphasize that nomophobia is a disease of the modern world.

Nomophobia is a concept derived from the abbreviation of “NO MOBILEPHONE PHOBIA” (Yildirim & Correia, 2015; Yıldırım et al., 2016). Nomophobia is the pathological fear of avoiding technology. It expresses the pain, worry, anxiousness, or misery that people experience when they lose communication with their mobile phones or computers (Bragazzi & Del Puente, 2014). Nomophobia is associated with the fear of losing communication with a mobile phone, leaving home without a mobile phone, or running out of charge (Márquez-Hernández et al., 2020).

Behind these fears and anxieties is the fear of getting used to the conveniences of smartphones and being deprived of the opportunities offered by smartphones (Yıldırım & Kışioğlu, 2018). Individuals experiencing nomophobia are expressed as nomophobic, and research results indicate that their number is increasing daily (Sarıbay & Durgun, 2019). Kaur et al. (2021) stated that the distinctive features of people with nomophobia are never turning off their phones, checking missed calls and messages repeatedly, and deliberately avoiding face-to-face communication. In case of their phone connections are cut, or their phone is unusable, nomophobics may experience physical problems such as panic attacks, breath shortness, tremors, increased heart rate, and neck and back pain. According to Gurbuz and Ozkan (2020), the obsession of nomophobic people with their smartphones can reach a level that negatively affects their daily behaviour. Sleep disorders, tension, and anxiety caused by nomophobic persons' excessive use of smartphones make them feel unpleasant and be less physically active.

Statistical results presented by We are Social support the study by Gurbuz and Ozkan (2020). When the results presented periodically by We are Social are examined, it is seen that the duration of

using mobile phones and spending time on the Internet with mobile phones has increased over the years. According to the July 2021 report, approximately 70% of the world's population uses mobile phones (5.27 billion), and an average of 3 hours and 36 minutes are spent on the Internet via mobile devices. (We Are Social, 2021). Gurbuz and Ozkan (2020) emphasize that smartphones are increasingly spreading among society from the old to the young and that they are an essential part of the lives of young people in particular. According to the Post Office research results, approximately 53% of the 2163 participants were nomophobic (Robinson, 2008). According to the research conducted by the SecurEnvoy research firm in 2012, 66% of the participants show nomophobia symptoms (SecurEnvoy, n.d.). Civek and Ulusoy founded that (2020) on the X and Y generations found that 7.9% of the participants were severe, 66% moderate, and 24.6% mild nomophobic. Considering that the age of using the phone is gradually decreasing, it is seen that recent studies on nomophobia generally focus on young people or students. Studies carried out by Yildirim et al. (2016), Türen et al. (2017) Gutiérrez-Puertas et al. (2019), Gurbuz and Ozkan (2020), Kaur et al. (2021) concluded that most of the young people or students who were the subject of the research were nomophobic. According to Gurbuz and Ozkan (2020), students spend a significant amount of their time on activities such as using social networks, watching videos, and playing games instead of the work they need to do. According to Çırak (2021), social media addiction affects the nomophobia undergraduate students in a significant and positive way.

### **2.3. Netlessphobia**

With the rapid changes that have emerged with information and communication technologies, it has become easier for individuals to access information and communication internet technologies. (Yıldız et al., 2020). The Internet has become an essential part of individuals as it is vital for their lives. (Yıldırım & Kişioğlu, 2018; Kanbay et al., 2022). Internet technologies such as social networks, online shopping opportunities and virtual banking services have caused individuals to become addicted to the Internet (Güney, 2017) and to experience fear of being deprived of the Internet (Yıldırım & Kişioğlu, 2018; Sarıbay & Durgun, 2019).

The rise of social media and virtual communication settings has lessened people's face-to-face connection to each other, causing them to avoid being in a location without the Internet and to avoid being in a location without the Internet by distancing themselves from real life. (Kanbay et al., 2022). This situation has revealed the concept of Netlessphobia, which is expressed as the fear of being without the Internet (Yıldırım & Kişioğlu, 2018).

Netlessphobia is defined as an individual's inability to be in environments without internet connectivity, and their anxiety and worry due to the lack of Internet (Öztürk, 2015; Güney, 2017; Yıldırım & Kişioğlu, 2018; Kanbay et al., 2022). According to Güney (2017), it is not enough to describe netlessphobia as a phobia, and when this concept is considered together with "internet addiction" and "Nomophobia", it undertakes a complementary task. According to Sarıbay and Durgun (2019), the main

factor distinguishing netlessphobia from regular internet use is the intense desire to spend time online. It is not enough for individuals with netlessphobia to carry a smartphone, and individuals avoid entering environments where there is no internet and constantly check their social media accounts. Therefore, it can be said that nomophobia is related to netlessphobia and social media addiction.

#### **2.4. Online Shopping Addiction**

Addiction is expressed as the persistence of behaviour by enduring the negative consequences of a behaviour. It is seen that most of the behaviors exhibited today are a type of addiction (Ariduru Ayazoğlu et al., 2019). With the development of internet-based technologies, consumers' lifestyles have changed (Günüç & Doğan Keskin, 2016), and the Internet has become a suitable channel for shopping for goods and services (Duong & Liaw, 2021). Online shopping has taken place as an alternative way to traditional shopping for individuals (Günüç & Doğan Keskin, 2016).

Online shopping offers advantages such as finding products at the most affordable price by doing price research and comparisons for products (Günüç & Doğan Keskin, 2016), saving time, facilitating shopping, and reducing transaction costs for consumers (Doğan Keskin & Günüç, 2017). Developed phone applications enable individuals to enjoy browsing online shopping sites in their spare time, and this causes online shopping to become an addiction for individuals (Kaur et al., 2019).

Tanoto and Evelyn (2019) state that online shopping addiction is an uncontrollable impulse of the individual and behaviour that can harm an individual's life. Duong and Liaw (2021) state that online shopping addiction is related to the daily time spent online shopping. Online shopping addiction is characterized by behaviours such as the urge to spend excessive amounts of time and money, anger when not buying online, and lying to others about the amount of time or money spent on online shopping, according to Kaur et al. (2019). According to Zhao et al. (2017), internet shopping addiction has a negative impact on an individual's daily activities, social life, and financial standing.

### **3. METHODOLOGY**

#### **3.1. Research Purpose**

The research aims to determine if social media addiction, nomophobia, and netlessphobia influence students' online buying addiction during the COVID-19 pandemic.

#### **3.2. Research Population and Sample**

Undergraduate students who actively use social media make up the research population. According to the Higher Education Institution, there were 6,950,142 students in Turkey during the 2022-2023 academic year (Yükseköğretim Kurulu, n.d.). According to Saunders et al. (2023), a sample size of 384 is sufficient for a population of 1,000,000 or more with a 95% confidence interval and 5% margin of error. According to Gegez (2015), when conducting a study involving multivariate analysis, including multiple regression analysis, it is recommended that the sample size should be at least ten times the

number of variables. The sample size for the survey was determined by the formula  $n = \frac{NPQZ^2}{(N-1)d^2 + PQZ^2}$  (Oktay et al., 2013). According to this formula, the minimum sample size was found to be 384. The data were collected from 439 participants between 1 October 2022 and 7 January 2023. Based on the information provided, the sample size of 439 individuals for this study is sufficient.

### 3.3. Hypotheses Development and Research Model

According to the We are Social 2021 July report, an average of 2 hours and 24 minutes is spent daily on social media. The reasons mentioned by participants for using social media include staying in touch with family and friends, reading news, being informed of what is going on, gaining information about things to do and purchase, and discovering items to buy (We Are Social, 2021). Therefore, individuals benefit from social media when they shop.

Considering the related studies, Genç (2015) found that the purchasing decisions of university students are affected by social media. Zhang et al. (2017) concluded that social media usage is associated with online shopping activities. Awobamise (2018) found that youth spending increased due to exposure to social media and online shopping. Duygun (2018) states that social media addiction affects consumer purchasing decisions. Safia et al. (2019) concluded that social media increases young people's desire to buy online. Uyar (2019) concluded that students who spend more time on social media affect their purchase intention. According to the findings of the study by Akçalı and Hacıoğlu (2021), there is a substantial association between the frequency of social media use and the purchase behaviour variable. Demir and Cetin (2021) determined that social media addiction positively affects online shopping. Based on these studies, the following hypothesis was developed.

H<sub>1</sub>: Social media addiction is effective on online shopping addiction.

The increase in the use of smartphones also has an impact on individuals' purchasing behaviour. Considering the related studies, Can (2019) found that nomophobia affects consumers' online shopping by affecting their consumption habits. Kadioğlu and Koşar (2019) concluded that as the level of being nomophobic increases, online purchasing behavior increases. Albez and Şirin (2021) found a positive and significant effect between nomophobia and buying styles. Celep and Çorumlu (2022) concluded that there are positive explanations for nomophobia and online purchasing behaviour. Based on these studies, the following hypothesis was developed.

H<sub>2</sub>: Nomophobia is effective on online shopping addiction.

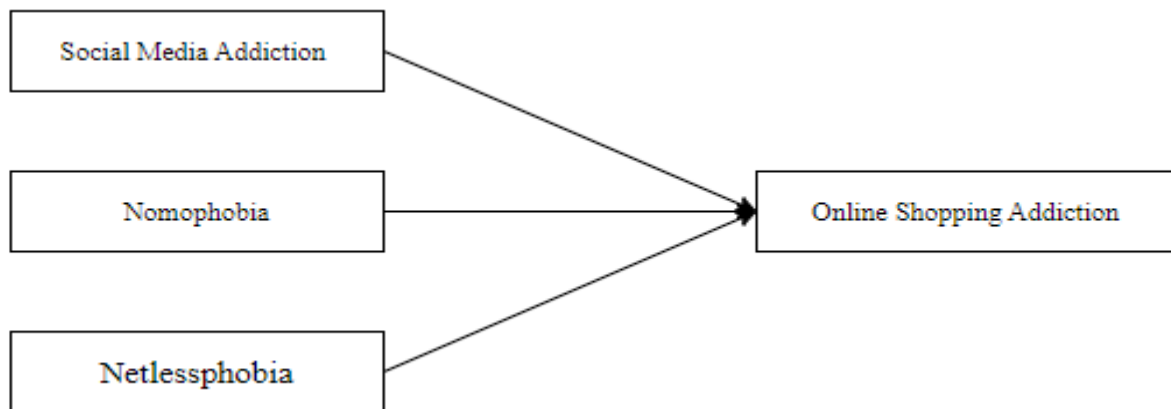
According to Güney (2017), it is not enough to describe netlessphobia as a phobia, and when this concept is considered together with "internet addiction" and "Nomophobia", it undertakes a complementary task. According to Sarıbay and Durgun (2019), the main factor distinguishing netlessphobia from regular internet use is the intense desire to spend time online. It is not enough for individuals with netlessphobia to carry a smartphone, and individuals avoid entering environments

where there is no internet and constantly check their social media accounts. Therefore, it can be said that there is a relationship between nomophobia, netlessphobia and social media addiction. Armağan and Temel (2018) stated that online shopping addiction has common characteristics with internet addiction. Yakın and Aytekin (2019) concluded that internet addiction positively affects online purchasing behaviours.

H<sub>3</sub>: Netlessphobia is effective on online shopping addiction.

The research model was built in accordance with the information mentioned above.

**Figure 1.** The Research Model



The study model contains four variables, as seen in Figure 1: social media addiction, nomophobia, netlessphobia, and online shopping addiction.

### 3.4. Procedure and Measures

The online survey used in the research consists of a 5-point Likert scale. The survey includes questions about demographic variables, questions about internet and social media use, online shopping addiction, nomophobia, netlessphobia and social media addiction.

The 6-item Social Media Addiction scale was obtained from the study conducted by Andreassen et al. (2016), the 20-item Nomophobia scale was obtained from the study by Yildirim and Correia (2015), the 12-item netlessphobia scale was obtained from the study by Kanbay et al. (2022), and the 18-item Online Shopping Addiction scale was obtained from the study by Zhao et al. (2017).

### 3.5. Data Analysis

The SPSS Statistic 25.0 package program was performed to conduct EFA, reliability analysis, descriptive analysis, correlation, and multiple regression analyses on 439 data.



### 3.6. Ethics Committee Approval Document

The ethics committee approval document for this study was obtained from Atatürk University Social and Human Sciences Ethics Committee (Permission Date: 10.12.2021, Number of Sessions: 19, Decision No: 234)

## 4. FINDINGS

### 4.1 Validity and Reliability Analyses

Exploratory factor analysis (EFA) was conducted to see whether the results obtained in this study, which was conducted with a different sample group, had a similar factor distribution to the scales used in the study. In the study, two statistical measures, such as Kaiser-Meyer-Olkin (KMO) and Bartlett's Test, were used to determine the suitability of the data set for factor analysis (Pallant, 2017). The number of factors was determined according to the eigenvalue. During factor analysis, the factor load limit was taken as 0.298 since the sample of the study was more than 300 and less than 600 (Field, 2013).

After the exploratory factor analysis, reliability analysis was performed to check the reliability of each of the factors and item-total correlations and Cronbach's Alpha values were examined.

#### 4.1.1. Exploratory Factor Analysis (EFA) and Reliability Analysis for Social Media Addiction Variable

The results of the EFA and reliability analysis of the social media addiction variable are presented in Table 1.

**Table 1.** EFA and Reliability Analysis for the Social Media Addiction Variable

Items	Factor Loadings	Explained Variance	KMO	Bartlett's Test of Sphericity (p)	Cronbach's Alpha
SMA2	0.779				
SMA4	0.738				
SMA1	0.723	51.719	0.806	0.000	0.812
SMA3	0.702				
SMA5	0.701				
SMA6	0.667				

Table 1, shows that the Kaiser-Meyer-Olkin (KMO) value was (0.806) and Bartlett's Test of Sphericity value was  $p$  (Sig)=0.00 <0.05 for the 6 items of the social media addiction scale. Therefore, data are suitable for factor analysis. The social media addiction scale consists of 6 items and one dimension, and this dimension explains 51.719% of the total variance. The dimensional distribution of the items in this scale was found to have similar distributions with the study conducted by Andreassen et al. (2016). Cronbach's Alpha value was obtained as 0.812. According to this value, the social media

addiction scale is reliable. When the corrected item-total correlations are examined, it is seen that all values are greater than 0.30.

#### 4.1.2. EFA and Reliability Analysis for Nomophobia Variable

The results of the EFA and reliability analysis of the nomophobia variable are given in Table 2.

**Table 2.** Exploratory Factor Analysis and Reliability Analysis for the Nomophobia Variable

Items	Factor Loadings	Explained Variance	KMO	Bartlett's Test of Sphericity (p)	Total Explained Variance	Cronbach's Alpha
Factor 1						
Nomophobia18	0.852	49.570	0.949	0.000	66.579	0.943
Nomophobia17	0.804					
Nomophobia19	0.795					
Nomophobia20	0.764					
Nomophobia16	0.663					
Nomophobia6	0.623					
Nomophobia9	0.533					
Nomophobia8	0.523					
Factor 2						
Nomophobia11	0.847	9.697				
Nomophobia13	0.832					
Nomophobia10	0.776					
Nomophobia15	0.750					
Nomophobia12	0.745					
Nomophobia14	0.732					
Factor 3						
Nomophobia2	0.835	7.312				
Nomophobia1	0.762					
Nomophobia3	0.742					
Nomophobia4	0.729					
Nomophobia7	0.498					

The exploratory factor analysis (EFA) conducted on the nomophobia scale excluded the item "Running out of battery in my smartphone would scare me" (Nomophobia 5) from the analysis due to the cross-loaded with a cross-load value of less than 0.10. Following this, an EFA was performed on the remaining 19 items. Table 2 shows that the Kaiser-Meyer-Olkin (KMO) value was (0.949) and Bartlett's Test of Sphericity value was  $p$  (Sig)=0.00 < 0.05 for the 19 items of the nomophobia scale. Therefore, data are suitable for factor analysis. The Nomophobia Scale has 19 items and three dimensions, which explains 66.579% of the total variance. The first dimension explains 49.570% of the total variance, the second dimension explains 9.697%, and the third dimension explains 7.312%. The dimensional distribution of the items in this scale differs from the study conducted by Yildirim and Correia (2015).

Cronbach's Alpha value was obtained as 0.943. According to this value, the social media addiction scale is reliable. When the corrected item-total correlations are examined, it is seen that all values are greater than 0.30.

#### 4.1.3. EFA and Reliability Analysis for Netlessphobia

The results of the EFA and reliability analysis of the netlessphobia variable are presented in Table 3.

**Table 3.** Exploratory Factor Analysis and Reliability Analysis for the Netlessphobia Variable

Items	Factor Loadings	Explained Variance	KMO	Bartlett's Test of Sphericity (p)	Cronbach's Alpha
Netlessphobia3	0.827				
Netlessphobia7	0.827				
Netlessphobia4	0.823				
Netlessphobia2	0.805	60.649	0.939	0.000	0.940
Netlessphobia1	0.795				
Netlessphobia9	0.784				
Netlessphobia8	0.779				
Netlessphobia6	0.777				
Netlessphobia5	0.777				
Netlessphobia10	0.746				
Netlessphobia12	0.709				
Netlessphobia11	0.681				

Table 3 shows that the Kaiser-Meyer-Olkin (KMO) value was (0.939) and Bartlett's Test of Sphericity value was  $p$  (Sig)=0.00 <0.05 for the 12 items of the netlessphobia scale. Therefore, data are suitable for factor analysis. The netlessphobia scale consists of 12 items and one dimension, and this dimension explains 60,649 % of the total variance. The dimensional distribution of the items in this scale was found to have similar distributions with the study conducted by Kanbay et al. (2022). Cronbach's Alpha value was obtained as 0.940. According to this value, the netlessphobia scale is reliable. When the corrected item-total correlations are examined, it is seen that all values are greater than 0.30.

#### 4.1.4. Exploratory Factor Analysis and Reliability Analysis for Online Shopping Addiction Variable

The results of the exploratory factor analysis and reliability analysis of the online shopping addiction variable are presented in Table 4.

**Table 4.** Exploratory Factor Analysis and Reliability Analysis for the Online Shopping Addiction Variable

Items	Factor Loadings	Explained Variance	KMO	Bartlett's Test of Sphericity (p)	Total Explained Variance	Cronbach's Alpha
Factor 1						
OSA5	0.815					
OSA4	0.801					
OSA7	0.768					
OSA3	0.748					
OSA8	0.729	61.699				
OSA9	0.698					
OSA6	0.691					
OSA2	0.650					
Factor 2						
			0.957	0.000	69.719	0.958
OSA18	0.853					
OSA17	0.826					
OSA16	0.762					
OSA14	0.729					
OSA13	0.709	8.020				
OSA10	0.687					
OSA15	0.677					
OSA11	0.652					

The exploratory factor analysis (EFA) conducted on the online shopping addiction scale excluded the two items: " When I am not shopping online, I keep thinking about it" (OSA1) and "I will feel restless or depressed when attempting to shop online but unable to achieve" (OSA12) from the analysis due to they cross-loaded with a cross-load value of less than 0.10. Following this, an EFA was performed on the remaining 16 items. Table 4 shows that the Kaiser-Meyer-Olkin (KMO) value was (0.957), and Bartlett's Test of Sphericity value was  $p$  (Sig)=0.00 <0.05 for the 16 items of the online shopping addiction scale. Therefore, data are suitable for factor analysis. The online shopping addiction has 16 items with two dimensions, which explains 61.699% of the total variance. The first dimension explains 61,699% of the total variance, and the second dimension explains 8.020% of the total variance. The dimensional distribution of the items in this scale differs from the study conducted by Zhao et al. (2017). Cronbach's Alpha value was obtained as 0.958. According to this value, the online shopping addiction scale is reliable. When the corrected item-total correlations are examined, it is seen that all values are greater than 0.30.

#### 4.2. Participants' Demographic Profiles

Participants' demographic profiles are presented as frequency and percentage in Table 5.

**Table 5.** Participants' Demographic Profiles

Demographic Variables		Frequency	%
Gender	Female	236	53.8
	Male	203	46.2
Age	1980-1999	167	38.0
	2000 and after	272	62.0
Income	1000 TL or less	222	50.6
	1001-2000 TL	80	18.2
	2001 +	137	31.2
COVID 19 disease	Yes	156	35.5
	No	283	64.5

According to Table 5, research participants generally consist of female students born in 2000 and later, have an income of 1000 TL or less, and are not exposed to COVID-19.

#### 4.3. Participants' Internet and Social Media Usage Data

Table 6 shows the frequency analysis findings for the participants' Internet and social media usage.

**Table 6.** Information on Internet and Social Media Usage of the Participants

Questions		Frequency	%
How long have you been an internet user?	1 to 3 years	57	13.0
	4 to 6 years	134	30.5
	7 years and above	248	56.5
How many hours do you spend daily on the internet?	0-2 hours	76	17.3
	3-4 hours	183	41.7
	5-6 hours	113	25.7
	7 hours and more	67	15.3
Where do you usually access the Internet from?	From my home	146	33.3
	From the house of friends and relatives	9	2.1
	Cafe or restaurant	4	0.9
	From school	7	1.6
	From mobile phone	210	47.8
	From dormitory	62	14.1
For what purpose do you use the internet?	Other	1	0.2
	Academic research/doing homework	265	60.5
	Play a game	134	30.6
	Watching movies-tv, listening to music	174	39.7
	Chatting	216	49.3
	Using social media	300	68.5
How long have you been using social media?	Online shopping	171	39
	Other	7	1.6
	For less than one year.	26	5.9
	For 1-3 years	107	24.4
	4-6 years.	157	35.8
	More than 7 years.	149	33.9

How much time do you spend on social media each day?	1-2 hours	155	35.3
	3-4 hours	162	36.9
	5-6 hours	84	19.1
	7hours and more	38	8.7
What social networking platforms do you use?	Youtube	372	84.7
	Instagram	376	85.6
	WhatsApp	421	95.9
	Facebook	115	26.2
	Twitter	197	44.9
	Facebook Messenger	34	7.7
	Pinterest	64	14.6
	LinkedIn	35	8.0
	Snapchat	130	29.6
	TikTok	71	16.2
	Diğer	6	1.4
Which social media platform do you spend the most time on?	Youtube	53	12.1
	Instagram	175	39.9
	WhatsApp	163	37.1
	Facebook	4	0.9
	Twitter	23	5.2
	Pinterest	2	0.5
	LinkedIn	1	0.2
	Snapchat	5	1.1
	TikTok	13	3.0

According to Table 6, participants have used the Internet for at least 7 years, spent 3-4 hours a day on the Internet, and accessed the Internet through their mobile phones. Furthermore, participants have been active on social media for at least 7 years, spent 1-2 hours daily, actively used platforms such as WhatsApp, Instagram, and Youtube, and spent more time on WhatsApp and Instagram.

#### 4.4. Correlation Analysis of The Variables in The Research Model

The relationship between social media addiction, nomophobia, netlessphobia, and online shopping addiction was discovered using Pearson correlation analysis. The correlation results are shown in Table 7.

**Table 7.** Correlation Analysis Results for Variables

Variables	1	2	3	4	Mean	S.D	Skewness	Kurtosis
1	1				2.6291	0.91380	0.144	-0.816
2	0.667**	1			2.8490	0.90049	0.004	-0.568
3	0.580**	0.749 **	1		2.5932	0.95944	0.279	-0.689
4	0.440**	0.416**	0.582**	1	2.0763	0.95058	0.719	-0.446

p<0.001 (1= Social Media Addiction, 2= Nomophobia, 3= Netlessphobia, 4= Online Shopping Addiction)

According to Table 7, it was seen that there is a moderate, positive significant relationship between social media addiction and nomophobia ( $r=0.667$ ,  $p<0.001$ ), netlessphobia ( $r=0.580$ ,  $p<0.001$ ),

and online shopping addiction ( $r= 0.440, p<0.001$ ). There is a strong, positive, and significant relationship between nomophobia and netlessphobia ( $r= 0.749, p<0.001$ ), a moderate and positive significant relationship between online shopping addiction ( $r=0.416, p<0.001$ ), and a moderate and positive significant relationship between netlessphobia and online shopping addiction ( $r=0.582, p<0.001$ ).

The overall mean of the participant's responses to the statements on the social media addiction scale is 2.63. On this scale, the statement "My use of social media negatively affected my work/works." has the highest mean value with 2.80, and the statement "My attempts to stop using social media have failed." has the lowest mean value with 2.40.

The overall mean of the participant's responses to the statements on the nomophobia scale is 2.85. On the nomophobia scale, the statement " I'm afraid that if I don't have my phone, my family and/or friends will be unable to reach me." has the highest mean value with 3.19. The statement " When I do not have my phone with me, I feel uneasy because I cannot stay updated on social media and other online networks" has the lowest mean value with 2.50.

The overall mean of the participant's responses to the statements on the netlessphobia scale is 2.59. On this scale, the statement " I prefer to go to locations that have an internet connection." has the highest mean value with 2.96, and the statement " I can't bear being without the internet, even for a short period." has the lowest mean value with 2.26.

The overall mean of the participant's responses to the statements on the online shopping addiction scale is 2.08. In this scale, the statement "Recently, I feel the urge to shop more and more online." has the highest mean value with 2.39, and the statement "I cut down on the time I spend with my family and friends for my internet shopping." has the lowest mean value with 1.85.

Furthermore, the kurtosis and skewness values are between the two criteria for normality. This means that the distribution of all variables is normal George and Mallery (2010).

#### 4.5. Research Model Testing

In order to understand whether the regression model is significant in estimating the online shopping addiction dependent variable and how well it fits the existing data, an ANOVA test was performed, and the results are presented in Table 8.

**Table 8.** ANOVA

The Dependent variable	Independent Variables	F	Sig.
Online shopping addiction	Social media addiction Nomophobia Netlessphobia	82,624	0.000

In Table 9, the F value was 82,624, and the p-value was 0.000. So, the research model was found to be statistically possible to predict the online shopping addiction variable with social media addiction, nomophobia, and netlessphobia.

#### 4.6. Multiple Regression Analysis

Multiple regression analysis was used to investigate the connection between dependent and independent variables. The findings are shown in Table 9.

**Table 9.** Multiple Regression Analysis

Variables	Unstd. B	Std. Beta	T	P-Value	Hypothesis	Decision
Social media addiction	0.219	0.210	4,022	0.000	H <sub>1</sub>	Accepted
Nomophobia	-0.164	-0.155	-2,421	0.016	H <sub>2</sub>	Accepted
Netlessphobia	0.574	0.576	9,847	0.000	H <sub>3</sub>	Accepted

Dependent variable: Online Shopping Addiction

R= 0.602 R<sup>2</sup>= 0.363 Adjusted R<sup>2</sup> = 0.359 D.Watson = 1.521

In Table 9, the R-value = 0.602. The R<sup>2</sup> value =0.359. This value shows that independent variables can explain online shopping addiction by approximately 36%. The Durbin-Watson value was obtained as 1.521, and since this value is close to 2, indicates there is no autocorrelation detected in the sample. The biggest Beta coefficient = 0.576. This value shows that netlessphobia makes the strongest contribution to online shopping addiction when the effect of other variables in the model is kept constant and the standardized Beta value of nomophobia = (-0.155). This negative value shows that nomophobia negatively affects online shopping. H<sub>1</sub>, H<sub>2</sub>, and H<sub>3</sub> hypotheses were accepted as the significance values in the model and obtained were less than 0.05.

#### 5. CONCLUSION

Individuals' remote activities with Internet-based technologies increased their dependency on the Internet and mobile technology throughout the COVID-19 pandemic, leading to nomophobia and anxiety about remaining in regions without the Internet. Over this period, people were more reliant on social media to achieve goals such as relieving tension and boredom and communicating with friends and close groups. This situation has influenced customer purchasing habits by affecting their lives. The study aimed to see how social media addiction, nomophobia, and netlessphobia affected online shopping addiction.

The research participants are mostly female students born in 2000 or later, with an income of 1000 TL or less and no history of COVID-19 illness. According to the study, the participants were students who had been internet users for 7 years or more, spent 3-4 hours daily on the Internet, and had mobile phone access. They have been using social media for over 7 years and spend 1-2 hours daily on it, primarily WhatsApp and Instagram.



Although the research participants' use of social media has a negative impact, participants are concerned about social media restrictions. The absence of the phone produces anxiety in the participants, and they are dissatisfied when they cannot access any information on their smartphones. They prioritize visiting areas with internet access and having a fully charged phone.

With the correlation analysis, it was concluded that all variables included in the study had significant relationships with each other. The variables with the highest correlation coefficient are netlessphobia and nomophobia. This result supports Güney's (2017) statement that netlessphobia is related to 'Nomophobia' and internet addiction.

To evaluate the effect between variables more comprehensively, multiple regression analysis was performed, and the following results were obtained:

Social media addiction was found to have an effect on online shopping addiction. As individuals' addiction to social media use increases, their online shopping addiction also increases. The lack of previous studies examining the effect between these two variables is one of the unique values of this study. In the context of consumer purchasing and online shopping behaviours, these results are consistent with the studies conducted by Zhang et al. (2017), Saleem and Ellahi (2017), Awobamise (2018), Duygun (2018), Voramontri and Klieb (2019), Uyar (2019), Demir and Çetin (2021) and Celep and Çorumlu (2022).

Nomophobia was found to have a negative effect on online shopping addiction. The increase in smartphone usage decreases online shopping addiction. The lack of previous studies examining the effect between these two variables is another unique value of this study. In the context of consumer purchasing and online shopping behaviours, these results are consistent with the studies conducted by Can (2019), Kadioğlu and Koşar (2019), Deniz (2020), Albez and Şirin (2021) and Celep and Çorumlu (2022).

Netlessphobia was found to have an effect on online shopping addiction. There is no previous study addressing the purchase and consumption behaviour related to netlessphobia. The most important contribution of this study is that it is the first study to address netlessphobia on online shopping addiction. In addition, according to the findings of the study, the variable with the greatest effect on online shopping addiction was determined as netlessphobia. This reveals that netlessphobia is a strong variable affecting online shopping addiction.

In line with the results obtained in the study, the following suggestions can be made.

In today's world, the widespread use of the internet and social media has caused people to experience psychological problems such as social media addiction, nomophobia and netlessphobia, as well as online shopping addiction, as they carry their phones with them at all times and avoid environments without internet access. In such situations, individuals should seek professional help to

overcome them and develop new habits. They should also allocate specific times to disconnect from their phones and digital interactions by engaging in technology and digital detox.

The increasing use of internet-based technologies and smartphones and easy internet access have enabled individuals to join groups and express themselves more easily through social media by removing physical and economic barriers. However, the intensive use of phones and social media platforms causes a behavioural disorder known as "fear of missing out" (FoMO). This form of fear can affect various behaviours, including online shopping and consumption patterns. Businesses can, therefore, adapt this fear to their advertising to increase interest in their products and influence consumers' propensity to shop online.

The fact that nomophobic individuals spend more time on social media requires brands to pay attention to social media marketing strategies and produce content for these individuals via social media. It is important for brands to offer mobile-compatible websites and applications that contain detailed information for individuals who tend to search for information on the internet and social media before making a purchasing decision.

Since individuals with nomophobia, netlessphobia and social media addiction might have a high tendency to make unplanned purchases, companies can encourage them to be more inclined to online shopping by emphasizing promotions and scarcity messages in internet and social media advertisements.

In future academic studies, research can be conducted on the effect of these concepts on consumer behaviour, especially rational and irrational consumption behaviour. The independent variables in this study can be considered separately, and their effects can be examined separately in the context of online shopping addiction. Although this study focused on undergraduate students, in future research could be expanded to the general population and comparisons could be made with the findings of this study.

For the study, ethics committee permission document dated December 10, 2021 and numbered 19/234 was obtained from the Ataturk University Ethics Committee.

The study has been crafted in adherence to the principles of research and publication ethics.

The authors declare that there exists no financial conflict of interest involving any institution, organization, or individual(s) associated with the article. Furthermore, there are no conflicts of interest among the authors themselves.

The authors contributed equally to the entire process of the research.

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