

Predictive Relationships Among Smartphone Addiction, Fear of Missing Out and Interaction Anxiousness

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Abstract

The aim of this study is to reveal the predictive relationships among smartphone addiction, fear of missing out (FOMO) and interaction anxiousness in university students. The study group of the research consists of 610 university students, 325 (53.3%) females and 285 (46.7%) males that were studying in Konya Turkey. In order to collect the data scales of Smartphone Addiction, Fearing Missing Developments in Social Environments and Interaction Anxiousness were used. The data were analyzed according to the "Structural Equation Model" via the AMOS program. According to the findings, the fear of missing out affects smartphone addiction significantly. Fearing of missing developments in social environments significantly affects interaction anxiousness and the interaction anxiousness meaningfully affects smartphone addiction.

Keywords: Smartphone addiction, FOMO, Interaction Anxiousness, University students.

Introduction

Smartphones are increasingly ubiquitous (Andrus, Dall, Hof, Laadan & Nieh, 2011) and offer a wide range of mobile applications for information, communication, education and entertainment (Haugi et al., 2015). While it is clear that people have the general tendency to be concerned about self-presentation and interaction with others, the underlying causes of such a predisposition are unclear and possibly complex (Auera, Calvia, Jordana, Schradera & Byrd-Cravena, 2018). It is observed that individuals experience more anxiety in social environments than they do when they are alone (Coskun, 2009).

Smartphones have replaced not only cell phones, but also personal computers and many other devices. Large screen sizes and natural mobility have enabled access to many functions anytime and anywhere (Samaha &

Hawi, 2016). In addition to these advantages, due to the fact that smartphones allow the use of many features of the internet, it has emerged that addiction to smart phones causes physical and psychosocial problems (O'Reilly, 1996). Excessive smartphone usage causes a decrease in real life social interaction (Kuss & Griffiths, 2011). Adolescents with poor social competence who are concerned about social interactions find social interactions online less dangerous than real life because of the anonymity provided by the internet (Shin & Jang, 2016). For this reason, according to Bonetti, Campbell & Gilmore (2010), with the widespread use of the Internet, the behavior of individuals' behaviors of establishing and maintaining friendships have begun to be moved to the virtual environment. Based on this situation, technological dependence is significantly more common in young adults (18-30 years old) who are in constant communication via new technologies (Laconi, Tricard & Chabrol, 2015).

The fact that information is more accessible than ever, since many people can now access social media on mobile devices, has made it possible for people to become more dependent on consuming information. Social media gives people the opportunity to share information with others easily and allows them to manipulate what other people are doing and saying (Abel, Buff & Burr, 2016; Hetz, Dawson & Cullen, 2015). With this opportunity and with the fear of missing out on social developments, frequent use of internet communication applications can trigger the behavior of following other users' online activities (Wegmann, Oberst, Stodt & Branda, 2017). The FOMO experience has been made possible by the virtual explosion of real-time sharing provided by social media tools, smartphones and tablets. These tools provide a continuous opportunity to influence what others are missing. While these technological facilities allow more frequent social interaction, they also increase the dependence of trust on mediated communication (Conlin, Billings & Averset, 2016).

Social interaction anxiousness means experiencing anxiety about social situations involving significant direct social interaction with others, such as meeting someone new at a party, talking to an attractive person or expressing views (Kimbrel, Mitchell & Nelson-Gray, 2010). It is at this point that individuals who prefer to communicate with others indirectly, due to the anxiety they experience, are likely to experience the fear of missing out and become dependent on smartphones. Therefore, in this study, it was aimed to reveal the predictive relationships among smartphone addiction, fear of missing out (FOMO) and interaction anxiousness in university students.

Smartphone addiction

Smartphone addiction is defined as the compulsion to use smartphones, even though individuals can anticipate the risks and negative consequences of their behavior (Kim, Lee, Lee, Nam & Chung, 2014). Smartphone addiction is characterized by symptoms of compulsive behavior, withdrawal, tolerance and functional deterioration (Lopez-Fernandez, 2017) as an impulse control disorder (Park & Lee, 2011; Mok et al., 2014). Besides, according to Jeong, Kim, Yum & Hwang (2016), social networking and playing games are also avenues of smartphone addiction. Smartphones have become the basic devices in daily life; however, the technological advantages of smartphones cause adverse side effects when used excessively (Kim, 2013; Kuss, Griffiths, Karila & Billieux, 2014). Smartphone addiction may be accompanied by anxiety (Hawi & Samaha, 2017a; Elhai, Levine & Hall, 2019), low life satisfaction (Hawi & Samaha, 2017b), and reduced psychosocial well-being (Herrero, Urueña, Torres & Hidalgo, 2019).

FoMO (Fear of Missing out)

Fear of missing out (FOMO) developments may indicate a certain personal inclination and a certain cognition about FOMO in an online topic (Fox & Moreland, 2015). According to Przybylski, Murayama, DeHaan and Gladwell (2013), the fear of missing out is the fear that other people will have fun without you.

It seems that those who are afraid of missing out on social happenings use social media extensively because they feel that they need to be constantly aware of everything that is happening in their social networks as a means of their basic satisfaction needs (Przybylski, Murayama, DeHaan & Gladwell, 2013). Social media use can only be one result of FOMO. The ones who have high FOMO and who are staying connected with others can be affected negatively in terms of their mental and physical health (Baker, Krieger & LeRoy, 2016).

The Interaction Anxiousness

Although social anxiety is seen as a unified theory, there are subcategories of social anxiety, such as the fear can be limited to a particular situation or it can be generalized and show up in many situations. Attempts to classify the causes of anxiety distinguish between those involving others observing or examining them, and those involving social interactions such as speaking or greeting (Liebowitz, 1987, quoted by Habke, Hewitt, Norton & Asmundson, 1997). Accordingly, social and social interaction anxiousness can be divided into two categories: general fear of social interaction situations/social phobia, and fear of being socially examined during routine

activities (Lyvers, Hanigan & Thorberg, 2018). Social interaction anxiousness is defined as individuals' anxiety in different social environments (Leary & Kowalski, 1993), meeting with others, fear and avoidance of interaction and self-expression (Kashdan, 2004). Disturbing emotions are among the main symptoms of social interaction anxiousness (Pierce, 2009), which is also defined as meeting other people and having trouble in speaking with them (Mattick & Clarke, 1998). Individuals with social interaction anxiousness tend to be self-conscious and criticize themselves more during social experiences (Hirsch, Clark, Mathews & Williams, 2003). The interaction anxiousness scale used in this study is also important in terms of emphasizing the emotional element of social tension (Coskun, 2009).

Individuals who prefer to communicate with others indirectly, due to the anxiety they experience, are likely to experience the fear of missing out and become dependent on smartphones. At this point, it was aimed to reveal the predictive relationships among smartphone addiction, fear of missing out (FOMO) and interaction anxiousness in university students.

Method

In the research, it was aimed to test the model that was formed with relationship among the fear of missing out, interaction anxiousness and smartphone addiction. For this purpose, the relational survey model, which is a sub-type of the general survey model, was used. Relational survey model is the research conducted to determine the relationships between two or more variables (Buyukozturk, Kilic-Cakmak, Akgun, Karadeniz & Demirel, 2014).

Study Group

The study group of the research was formed with university students in the province of Konya in Turkey who volunteered to participate in the study. The study group consisted of 325 (53.3%) females and 285 (46.7%) males, for a total of 610 subjects. There were 185 students (30.3%) between the ages of 18-20, 262 (43.0%) between the ages of 21-23 and 163 (26.7%) over the age of 24. According to their years of study, there were 96 (15.7%) freshmen, there were 226 (37.0%) students who were in their second year, there were 149 people (24.4%) who were in their third year and 139 (22.8%) in their final year.

Data Collection Tools

The Fear of Missing Out scale (FOMOs)

In order to measure students' fears of missing out on social happenings, the Fear of Missing Out scale (FOMOS) developed by Przybylski, Murayama, DeHaan & Gladwell (2013) was used in the research. The high score obtained from the scale, consisting of 10 items and a five-point Likert type, shows that

the fear of missing is increased. The reliability and validity studies of the scale in Turkey was carried out by Gokler, Aydin, Unal & Metintas (2016). According to the factor analysis, the factor loads of the one-dimensional structure vary between 0.36-0.77. Cronbach alpha coefficient of the scale was found 0.81, and the test-retest reliability coefficient was 0.81 (Gokler, Aydin, Unal & Metintas, 2016). The Cronbach alpha coefficient calculated in this research was found as .83. Cronbach's alpha (α) coefficient is used to estimate the reliability of a psychometric test. If the coefficient is 0.7 and above, the reliability of the scale is considered good (Kilic, 2016).

The Social Interaction Anxiousness Scale (SIAS):

In order to measure students' interaction anxiety levels in the research, the Interaction Anxiousness Scale developed by Leary and Kowalski (1993) was used. The high score of the scale consisting of 15 items and a five-point Likert type indicates the high level of interaction anxiousness and the low score display low level of interaction anxiousness. In the studies conducted by Leary and Kowalski (1993), the internal consistency of the scale was reported as .88 and the test-retest reliability coefficient was .80. The validity and reliability studies of the Turkish sample were conducted Coskun (2009). The results of the various factor analyzes show that the items of the scale are gathered in a single factor, consistent with the original scale, and explain 44.4% of the variance. The internal consistency coefficient of the scale was found to be .91 and the test-retest reliability coefficient performed at three-week intervals was .80 (Coskun, 2009). The Cronbach alpha coefficient calculated in this research was .65. Cronbach's alpha (α) coefficient is used to estimate the reliability of a psychometric test. If the coefficient is 0.7 and above, the reliability of the scale is considered good (Kilic, 2016).

Smartphone Addiction Scale Short Form:

In order to measure students' smartphone addiction in the research, the Smartphone Addiction scale developed by Kwon et al. (2013) was used. The high score obtained from the 10-item Likert-type scale shows that smartphone addiction is high. In the studies conducted by Kwon et al. (2013), the Cronbach alpha values of the scale was reported as .96. Reliability and validity studies of the scale were carried out by Noyan, Enez-Darcin, Nurmedov, Yilmaz & Dilbaz (2015) in Turkey. Cronbach alpha coefficient, which shows the reliability of the scale, was measured as 0.867. Test-retest reliability coefficient was found to be 0.926 (Noyan, Enez-Darcin, Nurmedov, Yilmaz & Dilbaz, 2015). Cronbach alpha coefficient calculated in this research is found as .87. Cronbach's alpha (α) coefficient is used to estimate the reliability of a psychometric test. If the coefficient is 0.7 and above, the reliability of the scale is considered good (Kilic, 2016).

Data Analysis

In this study, which was conducted to test the model formed with the predictive relationships among smartphone addiction, fear of missing out (FOMO) and interaction anxiety in university students, the correlation values of variables were obtained via SPSS 21 program. Then, the model formed was tested with Structural Equation Model (SEM). SEM is a method performed to establish a statistical cause-effect bond (Byrene, 2013). Since each of the scales in the model consists of a single dimension, it reduces the standard errors in the measurement and increases the reliability (Alhija & Wisenbaker, 2006). Each scale is divided into two parcels, taking into account their internal consistency. Parceling is computing sums or average scores across multiple items. They are used as indicators of latent factors in the structural equation modeling. The model obtained in the present study was tested with the AMOS 16 program.

Results

In this section, correlation analysis for the relationships among the variables and findings of the structural equation model are presented.

Correlation Values Between Variables

Table 1. Correlation Table Among Fear of Missing Out, Interaction Anxiousness and Smartphone Addiction

Analyse	Fear of Missing Out	Interaction Anxiousness	Smartphone Addiction
Fear of Missing Out	1	.356**	.496**
Interaction Anxiousness		1	.306**
Smartphone Addiction			1

According to the findings in Table 1, positive correlations were found. These correlations are as follows: between fear of missing out and smartphone addiction ($r=.496$, $p<.01$); between interaction anxiousness and smartphone addiction ($r=.306$, $p<.01$) and between fear of missing out and interaction anxiousness ($r=.356$, $p<.01$).

Structural Equation Model

The effect of fear of missing out on interaction anxiousness and smartphone addiction and the effect of interaction anxiousness on smartphone addiction were tested via the Structural Equation Model. Each of the paths shown in the model was found statistically significant. It was observed that the fit indices of the model obtained showed a good fit.

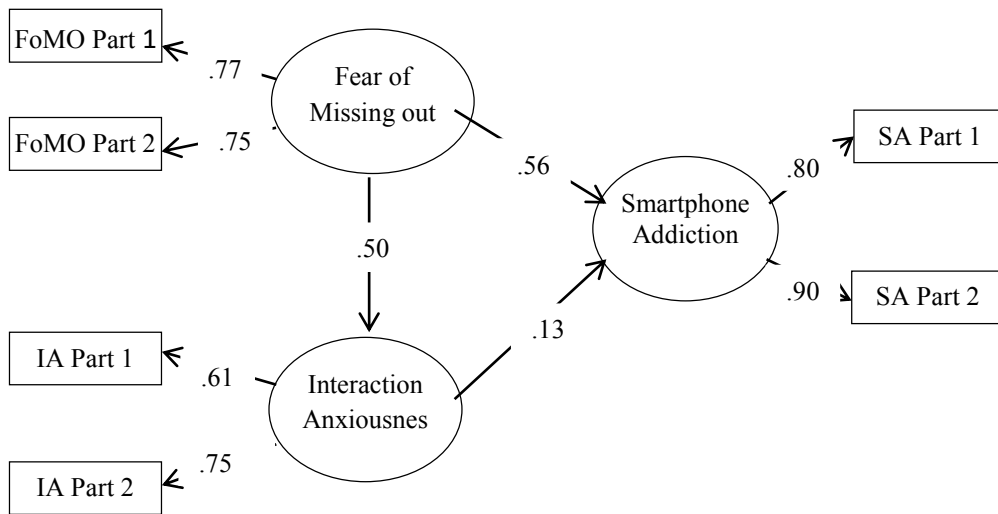


Figure 1. Structural Equation Model Test Results

Note. ** $p < 0.01$, FoMO Part 1-2= Fear of missing out parcel, SA Part 1-2=Smartphone addiction parcel, IA Part 1-2=Interaction anxiousness parcel

When the fit values of the model in Figure 1 are examined, the following results were obtained: $X^2/df = 1.98$, RMSEA= 0.04, SRMR=0.0, AGFI=0.98, NFI =0.99, GFI =0.99, CFI =0.99, TLI = 0.98. In general, it is understood that the model has the desired level of fit (Bollen, 1989; Browne & Cudeck, 1993; Byrne, 2010; Hu & Bentler, 1999; Kline, 2011; Tanaka & Huba, 1985). The one-factor model tested is shown in Figure 1. All paths shown in the model are significant at 0.001 level. These values show that the established structural model is within acceptable limits. The standardized beta, standard error and significance values of the model are shown in Table 2.

Table 2. Model for Predictive Relationships Among Fear of Missing Out, Interaction Anxiousness and Smartphone Addiction

Predictive Variable	Dependent Variable	Standardized β	Standard Error	Critic Value
Fear of Missing Out	Smartphone Addiction	0.56	0.09	8.29**
Fear of Missing Out	Interaction Anxiousness	0.50	0.06	8.08**
Interaction Anxiousness	Smartphone Addiction	0.13	0.07	2.11*

* $p < 0.05$, ** $p < 0.01$

The connection coefficient value for this factor was found to be $\beta = 0.56$. Fear of missing out significantly affects interaction anxiousness and interaction anxiety affects smartphone addiction meaningfully. Connection coefficients obtained were respectively $\beta = 0.50$ and $\beta = 0.13$. A positive effect was observed on all paths of the model.

Discussion

According to the findings, the fear of missing out (FoMO) affects smartphone addiction significantly. This finding supports the effect of FoMO on the overuse of smartphones obtained in previous studies (Elhai, Levine, Dvorak & Hall, 2016; Chotpitayasunondh & Douglas, 2016; Clayton, Leshner & Almond, 2015; Hong, Chiu & Huang, 2012). Individuals experiencing high levels of FoMO are likely to suffer from problematic smartphone usage and emotional control (Wolniewicz, Tiamiyu, Weeks & Elhai, 2018). In addition, there is a significant relationship between addiction to the internet and social networks and the excessive usage of the smartphones (Mohammadi et al., 2018). Most smartphone users utilize the internet at high levels (Kawabe, Horiuchi, Ochi, Oka & Uenno, 2016). One of the most important channels of communication with people is through the internet, and social networks help people to be aware of what is happening around the world. Thus, avoiding the flow of information can give the person a feeling that one of their life channels has disappeared. Therefore the individual can reach for their smartphone as a means to stay informed and avoid this feeling. In addition, the positive relationship between FoMO and internet addiction support the findings of the study (Blanca & Bendayan, 2018). FoMO has been associated with problematic internet use, especially the overuse of social media (Alt, 2015; Casalea, Rugaib & Fioravantia, 2018).

Fear of missing out significantly affects interaction anxiousness. The fear of missing out is a triggering factor for people as the grasp for being aware of what is going on (Reagle, 2015), as well as the use of social media

(Przybylski, Murayama, DeHaan & Gladwell, 2013; Oberst, Wegmann, Stodt, Brand & Chamarro, 2017). People with interaction anxiousness are those who avoid being in face-to-face social environments and prefer mediated social relationships. Based on this, it is possible that a person who continues to communicate via the internet and waits to be informed about people minute-by-minute, will have anxiety when interacting with others. Social anxiety (Dempsey, O'Brien, Tiamyua & Elhaia, 2019) is associated with fear of missing out on social happenings. The findings of the studies in the field (Elhai, Levine, Alghraibeh, Alafnan, Aldraiweesh & Hall, 2018; Elhaia, Yanga, Fanga, Baia & Hall, 2019) supports the findings of the present study regarding FoMO mediating the relationships between smartphone addiction and interaction anxiousness.

Interaction anxiousness significantly affects smartphone addiction. In studies conducted on the subject, smartphone addiction was found to be significantly associated with anxiety (Billieux et al. 2015; Thomsen et al., 2018). The convenience of the smartphone keeps the person in contact with other people without feeling threatened by uncomfortable emotions. For this reason, individuals with social anxiety tend to communicate with other people via their smartphones. The more the individual avoids communicating directly, the higher the anxiety of interaction can be, and the higher the frequency of smartphone usage. A statistically significant positive relationship was found between interaction anxiety and smartphone addiction among university students (Konan, Durmus, Turkoglu & Agiroglu-Bakir, 2018; Konan & Celik, 2019). There were similar results in the research conducted by Lee, Chang, Lin, & Cheng (2014). These findings support the findings obtained in the present study.

Conclusion

As a result of the study, it was found that the fear of missing out, smartphone addiction and interaction anxiousness were significantly related in university students. Additionally, the model among the variables was found to be significant. It is obvious that university students are at an important transition period in their lives. In this period, considering the risky behavior characteristics of the age range they are in, they may tend to suffer more from smartphone addiction. As they step into new social environments, they might feel anxious while communicating with people-this can easily be triggered in a university environment where they meet new people regularly. Therefore, instead of sitting, talking, traveling and communicating directly with them, they can make smartphones the easiest way to reach and be informed about these new friends. As a result, fear of missing out in university students, increases smartphone addiction, and is likely to be found in young people who have interaction anxiousness.

Recommendations

According to the results obtained in the study, due to their developmental characteristics, university students might want to be aware of their friends' environment and what is happening in the world. This can push them to worry about being unaware of what's happening in their social environment. At the same time, young people who develop such anxiety can turn into individuals who avoid communicating face-to-face with people and instead prefer smartphone-mediated interactions, which is a potential danger for young people. Young people can and should be directed to social environments where they can have fun through face-to-face communication. Being in youth groups and participating in volunteering activities may help them work through their potential concerns. This may help them fulfill their needs of belonging to a group. At the same time, young people can be informed about to what extent the use of smart phones is necessary, as well as what kind of usage makes it problematic. The limitations imposed on the students in the necessary environments may also boost them in conscious usage of smartphones.

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