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Nomophobia in adolescents based on gender: a case study of East Jakarta, Indonesia

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Abstract
Nomophobia is a modern phobia that occurs mostly in adolescents due to addiction to the use of a smartphone. The purpose of this study is to analyze the differences in the level of nomophobia among adolescents based on gender. This is a quantitative research with a comparative descriptive approach. Data were obtained from 400 adolescents selected using the convenience sampling technique. Furthermore, the instrument used was the Indonesian version of the Nomophobia Questionnaire (NMP-Q) consisting of 20 valid items with alfa Cronbach of 0,93 developed and adapted by Rangka et al. (2018). While hypothesis testing was carried out using the Independent Sample t-Test formula. The results showed a significant difference between nomophobia in boys and girls, with a t-value of -5.531 at a significance level (p) of 0.000. This means that in east Jakarta, the girls have higher nomophobia than men due to their significant inability to community effectively and efficiently while using their smartphones.

Keywords: Nomophobia, Adolescence, Gender

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Introduction

Presently, teenagers are faced with various problems, such as an extreme or irrational fear of something also known as phobia. According to Chaplin (2001), phobia is a strong feeling of anxiety, and irrational fear caused by a special stimulus or the abnormal feeling of uneasiness in an enclosed environment. In addition, Davidson reported that phobia is fear and rejection of objects or situations that do not involve real danger. The DSM-IV-TR stated that there are six main categories of anxiety disorders, one of which is phobia. This anxiety is divided into two types, namely specific and social phobia (Davidson, Neale, and Kring, 2006). One of the most recent types of phobia commonly experienced by adolescents is nomophobia, which is the fear of losing a smartphone. Braggazi and Puente (2014) stated that although nomophobia has not been included in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, it has been proposed as a specific type of phobia.

Furthermore, Muyana and Widyastuti (2017) reported that nomophobia is the fear that occurs due to the inability to utilize smartphones. Yildirim (2014) also added that it is the fear of losing access to mobile contacts, thereby bridging the interaction between individuals as well as information and communication technology, such as smartphones. From an expert opinion, it can be concluded that nomophobia is a modern psychological disease due to the effect of information and communication technology development, whereby sufferers feel scared and anxious when they are away from their smartphones.

Nomophobia is similar to the addiction of people to their smartphones, which has created a significant impact on social, physical and cognitive impairments. According to Anna, Lucia S. & King et al. (2014) and Tran (2016), losing personal smartphone or the inability to control the occurrence of the low battery leads to nomophobia. However, this condition stops immediately the sufferer receives another smartphone.

Yildirim (2014) stated that there are four dimensions of nomophobia, namely inability to communicate, losing connection or signal, inability to access information, and inconvenience. Meanwhile, Yildirim (2014)

further stated that the factors capable of affecting nomophobia are gender, self-esteem, age, extraversion and neuroticism. In addition, nomophobia has various impacts that need to be considered by various parties, such as the disruption of personality health, decrease in learning interest, poor academic achievement and of the habit of staying away from social life such as family and society (Dasiroh, Miswatun, Ilahi, & Nurjannah, 2015). Bragazzi & Puente (2014) and A. L.S. King et al. (2013) reported that nomophobia is associated with a feeling of anxiety, loneliness, panic, sadness, trembling and sweating. According to Badwilan (2004), smartphone tends to have psychological, social and health impacts on its users. Subsequently, Prabandari et al., Muyassaroh, and Mahmudi (2017) stated that one of the negative effects of nomophobia is that it encourages laziness among adolescents, thereby, making them lose focus on studying. They also stated that it leads to a lack of sensitivity or concern for the social environment.

Hafni (2019) reported people to tend to spend more time on cell phones than the environment, therefore, when they are in an area without network, or poor electricity supply to charge their phone batteries, they feel anxious, which negatively affects their concentration level. Conversely, the excessive use of smartphones can improve users ability to use the features of essential applications such as personal diaries, email, calculators, video game players, cameras, and music players (Yildirim, 2014).

Several studies have shown that those suffering from nomophobia, are also faced with the inability to switch off their phones, excessive worry on battery power, constantly checking for messages, news and social emails. In addition, they also tend to carry their smartphone to the bathroom due to anxiety (Dasiroh et al., 2015). According to Santrock (2012), adolescents are presently experiencing stages in life that are quite different from their parents' due to the inception of technology and technological devices such as smartphones. Therefore, without proper supervision and control by adults, the smartphone media makes the user easily reach adulthood, and when not wisely used, they become difficult to control (Santrock, 2012). Many teenagers are addicted to smartphones, and they tend to carry it wherever they go, such as meeting places, markets, toilets and other unusual places. Some also play with this technological device until they forget to eat or go about their daily obligations. This category of people, most times get scared whenever they stay away from their smartphone because they have formed the habit of checking it irrespective of their location and time. Studies have shown that sometimes teenagers are busy playing with their smartphones that they rarely interact with people around them. When they are with this device, it seems as though they have their world. This phenomenon is often found in public places such as commuter lines, shopping centers, cafes and other places.

Therefore, from the above analysis, it can be concluded that nomophobia is a serious condition among adolescents. According to Gezgin and Çakır (2016), nomophobic behavior builds individuals negative anxiety, which tends to affect their ability to concentrate on carrying out their daily activities. Generally, the smartphone is a technology with PC-like capabilities, equipped with a sophisticated operating system comprising of several modern features, such as email, media players cameras, GPS navigation unit, and web browsers, which uses either cellular data or Wi-Fi networks (Kwon, Kim, Cho, & Yang, 2013). Mulyati & NRH (2018) i stated that smartphones allow users to stay connected with other people irrespective of their time and space through SMS (Short Message Service), and various internet facilities. Furthermore, these internet facilities make it easier for individuals to chat, browse, play online games and access various social media apps such as Instagram, Path, Facebook, Twitter, WhatsApp etc.

Currently, smartphones are widely owned and used by almost everyone in the world, including in Indonesia, where a tremendous increase is experienced in the number of sales every year due to its affordability. In 2013 Yahoo and Mid share conducted a research and found that out of 41 million smartphones users in Indonesia, 39% of them are young people between the ages of 16 to 21 years (Wulandari, Darmawiguna, & Wahyuni, 2014). This case can be seen from the habits of young people that are inseparable from their smartphones when carrying out their daily activities. Basically, the use of smartphone provides benefits and helps people to meet their basic needs, however, this can also lead to several problems, one of which is nomophobia (Yildirim, 2014).

The results of the SecurEnvoy survey found that teenagers within the age range of 18-24 years (77%) have the most number of nomophobia followed by those aged 25-34 years (68%) (SecurEnvoy, 2012). Moreover, the results of another study conducted by Al-Barashdi, Bouazza, and Jabur (2010) found that gender has different relations with several aspects of smartphone usage behavior. Furthermore, a 2012 research stated that 70% of women are more prone to nomophobia, compared to 61% of men (Yildirim, 2014). However, this is different from the research carried out by Oktuğ (2012), which stated that men spend more time with smartphones than women.

Research on nomophobia is also needed in guidance and counselling to provide counseling teachers with better understand as well as ways to determine and anticipate are when students deviate. In addition, it can be used to assist teachers in preparing BK programs, providing the right services, to carry out preventive and

curative measures. It can also be used as a reference for the proper use of smartphones to prevent addiction. This research was carried out in adolescents in the eastern part of DKI Jakarta, Indonesia. The study was carried out in this region because it is densely populated and bustling with the development of science and technology. Therefore, this research focuses on examining the phenomenon of nomophobia in terms of gender, which is one of the factors capable of influencing this phenomenon.

Method

The sample study consists of 200 teenagers in East Jakarta consisting of males and females, as shown in Table 1.

Table 1. Demographic Profile of Research Sample

Gender	N
Male	123 People
Female	277 People
	400 People

Based on Table 1, the population of this study was 200 adolescents in East Jakarta selected from a total sample of 400 people, consisting of 123 men, and 277 women. The adolescents were within the age of 12 to 18 years, and they were selected using the convenience sampling technique.

This study collected the data using the Indonesian version of the Nomophobia Questionnaire (NMP-Q) which is an instrument developed and adapted by Rangka et al. in 2018, from an original English version compiled by Yildirim and Correiain 2015. This scale was created based on four dimensions, namely inability to communicate, losing connection or signal, inability to access information, and inconvenience (Yildirim, 2014). A total of 20 valid items were obtained using the alfa Cronbach at 0,93. At the same time, the Likert scale model instrument comprising of 5 alternative answers from very agree and disagree was used for analysis. To complete the questionnaire, this study distributed google form through social media such as WhatsApp, etc.

This research used quantitative methods with a comparative descriptive approach, while data were analyzed using descriptive statistics and t-test with the Independent Sample t-Test formula used to assess the differences between the two groups with the help of the SPSS 17 program.

Results and Discussion

Table 2 presents and categorizes the results related to the differences in nomophobia between boys and girls in East Jakarta.

Table 2. Categorization of Nomophobia based on Gender

Gender	Category	%
Male	Low	24,4%
	Medium	45,5%
	High	21,%
	Very High	7,3%
Female	Low	10,8%
	Medium	36,1%
	High	36,1%
	Very High	17%

Table 2 showed that the nomophobia of male adolescents is in the medium category with a percentage of 45.5% and in the very high category in for the female adolescents with a percentage of 17%. However, the average results and percentages per sub variable among adolescent girls, was in the high category, of 69.27% with an average of 69.27, and 61% for males was in the medium category, with an average of 61.08. Therefore, it can be concluded that the average nomophobia category of female teenagers is higher than male.

Table 3. Calculation Results of Nomophobia Difference Test in Adolescents based on Gender

Nomophobia	Equality of Variances		t-test for equality of Means		
	F	Sig.	T	Df	Sig. (2-Tailed)
Equal variances assumed	.802	.371	-5.531	398	.000
Equal variances not assumed			-5.638	245.010	.000

The calculation results of the difference between the two data show that the column Levene's Statistic Test for Equality of Variances has a significance value of 0.371 (p> 0.05). The result showed that the two variances were same, therefore, the variance was used to compare the population average of t-test for Equality of Means. The basis of the equal variance assumed a t-value of -5.531, obtained a significance level of p = 0.000.

The hypothesis in this study was similar to previous research which stated that 70% of women are more prone to nomophobia, compared to 61% of men (Yildirim, 2014). Moreover, this research is also supported by the study conducted by Rakhmawati (2017) using 233 respondents which stated that the highest nomophobia sufferers based on gender were women by 63%. Aktay and Kuscu also found that the rate of nomophobia in women was much higher than that of men, especially when they lost connections and were unable to communicate (Aktay & Kuscu, 2019).

Women tend to use smartphones more often for entertainment associated with social media, such as chatting, viewing gossip accounts, etc. Therefore, women have a higher grade of nomophobia than men, especially in the aspects of losing connection and being unable to communicate. This finding is supported by a research carried out by Yeboah & Ewur (2014), which reported that 80% out of the 40 respondents used whatsapp on their phone to communicate with their friends on none academic related topics. Pavithra et al. also stated that 56% of people used smartphones for social connection and 2% for taking selfies (Pavithra MB, Suwarna Madhukumar, 2015). This statement was supported by Duggan and Brenner's research in Bolle, which stated that men use smartphones for their businesses, while women used it for social pleasure, such as gossiping, and maintaining social relationship. Social media is also attractive to a large proportion of women, however this does not mean that men do not have the potential to suffer from nomophobia, because they are often addicted to gaming and gambling applications (Bolle, 2014).

According to Hasiguan in Diana and Sarmini (2016), female teenagers carry out online shopping based on their needs, and for the sake of pleasure and lifestyle, thereby making them extravagant. Moreover, Chóliz's research showed that girls are more dependent on smartphones which they use to send text messages, and spend money than boys. Therefore, they tend to experience misunderstanding with their parents more often (Chóliz, 2012). Jordan and Surujal (2013) stated that approximately 90% of college students in the Y era were addicted to the use of smartphones. They also reported that there are 7 impacts associated with being addicted to smartphones, namely confidence, response, interaction in family, attention, happiness, attraction and less social interaction. On the other hand, the use of smartphones makes teenagers feel that they have a physical condition and a perfect appearance (Sudarji, 2018). Furthermore, Jones (2014), stated that 98,5% of smartphone users seek self-satisfaction and self-acceptance on social media, while 56.9% experience instant messaging addiction. Jones also found that 2.8% agreed that smartphone addiction has a psychological impact on users, that feel lost and stressed when they do not carry a smartphone. Self-confidence in adolescence is fragile due to the failure factor and insecurity experienced by both boys and girls (Al-Mighwar, 2006).

Another impact of nomophobia in adolescents is its negative effect on their academics, which makes them addicted to their cellular device instead of spending time on useful activities. Therefore, they tend to participate in learning activities with low motivation and achievement. Sagita et al. stated that teenagers with high achievement motivation do not waste their time by utilizing time-consuming devices and a burden in their ability to complete academic-related tasks. On the other hand, those with low achievement motivation, tend to feel overwhelmed by their task and often force themselves to carry out activities beyond their limits, thereby causing stress (Sagita, Daharnis, & Syahniar, 2017). This statement is supported by the research carried out by Manumpil et al. which stated that the use of smartphones had an effect on the level of student achievement. Student concentration during class hours can be disrupted due to prolonged use of smartphone which can also interfere with the function of the brain by weakening its working power (Manumpil, Ismanto, & Onibala, 2015).

According to Ashwini S et al. it is better to determine adequate measures to prevent teenagers from getting addicted to their smartphones, than seeking for ways to correct through counselling. Most smartphone users

are young, therefore health education strategies need to be targeted at this category of people to prevent the harmful effects of nomophobia (Dongre, Inamdar, & Gattani, 2017).

This study focused on the nomophobic behavior of adolescents in East Jakarta based on gender aspects. The results showed that a lot of adolescents in East Jakarta, especially girls, had nomophobia, therefore, various preventive steps are needed to minimize this behavior among them.

Overall, this research has been optimally conducted by referring to existing scientific methods and procedures, however, there was difficulty in achieving the desired results. This study is limited to East Jakarta and does not cover all regions in Indonesia. Furthermore, the research was conducted on adolescents between the ages of 12-18 years, which is likely to result in different conclusions when carried out on parents or children.

Conclusion

In conclusion, the levels of nomophobia in male and female adolescents are in the medium and high levels, respectively. Therefore, there is a significant difference in the level of nomophobia between young boys and girls living in East Jakarta with a value of p= 0.000 (p <0.5). This study also showed that women have a higher nomophobia than men due to their inability to communicate and accept corrections when in this mode. They also tend to use smartphones more often for entertainment associated with social media, such as chatting, viewing gossip accounts, etc. Adolescents suffering from nomophobia are affected by several factors such as gender, self-esteem, extraversion and neuroticism. Therefore, for them to avoid this behavior, counsellors need to take appropriate preventive measures.

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