Self-Control and Loneliness with Nomophobia Tendencies among Teenagers

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ABSTRACT

The use of smartphones is immense and continues to increase, causing new problems to emerge, especially in health. The increasing intensity of smartphone use also has an impact on daily life. Individuals who are dependent on their cell phones and feel anxious if the cell phone is not nearby are known as Nomophobia or No Mobile Phone Phobia. This research aims to determine the influence between self-control and loneliness with nomophobia tendencies in teenagers. The subjects of this research were early teenagers with a range of ages 12-15 years, totaling 163 subjects. The sampling technique used the g-power application with an effect size of 0.3, power 0.90 and error prob 0.05. Using the SPSS IBM25 Windows application, the data analysis method included multiple regression analysis. The findings of this research suggest that the first hypothesis which claims that there is a tendency between self-control and loneliness and nomophobia in teenagers is accepted. The second hypothesis which states that there is a relationship between self-control and nomophobia in teenagers is acceptable. The third hypothesis which argues that there is a relationship between loneliness and nomophobia in teenagers is accepted.

Keywords: Loneliness, Nomophobia, Self-Control
INTRODUCTION

Technology for communication and information is developing at an immensely quick pace, ranging from the simplest communication tools to sophisticated communication devices that are commonly referred to as smartphones. In Indonesia, the use of smartphones continues to grow significantly (Warisyah, 2015). One of the largest smartphone users includes teenagers and young adults, totaling 64.4% with an age range of 12-34 years (Miskahuddin, 2017). The use of smartphones is immense and continues to increase, causing new problems to emerge, especially in health. The increasing intensity of smartphone use also has an impact on daily life. Individuals who are dependent on their cell phones and feel anxious if the cell phone is not nearby are known as Nomophobia, which stands for No Mobile Phone Phobia, a condition in which a person is unable to be apart from their cell phone (Manita et al., 2019).

Nomophobia is not only defined as someone who is anxious because they do not carry a cell phone, but also the fear and anxiety that may occur due to varied circumstances, such as no network reach, running out of battery, no internet access, running out of the data quota and others (Muyana & Widyastuti, 2017). Yildirim (2014) defines nomophobia as the worry and despair of not having access to a cell phone, which is perceived as a modern phobia as a side effect of the interaction between humans, information technology, and communication. The sense of comfort offered by smartphones becomes a problem when it is used excessively. There are even some individuals who experience anxiety when they are away from their smartphones. The phenomenon of nomophobia in Indonesia is prevalent, especially when observed among individuals on public transport or in shopping malls. Many individuals are so busy with their smartphones that they don’t seem to care about their surroundings and only focus on their respective phones. The aspects of nomophobia are anxiety about not being able to communicate, anxiety about losing connection, not being able to access information from smartphones and being uncomfortable away from smartphones (Yildirim, 2014).

A prior study conducted by Ekawanti & Olievia (2016) identified that gadget addicts often check their smartphones approximately 1,500 times each day. Bohag (2015) stated that as many as 20% of smartphone users in Indonesia fall into the data-hungry category, with an average data usage of 249 MB per day, especially during the prime evening hours between 19.00 and 22.00, which means they spend as much as 126 minutes each day using smartphones. This excessive smartphone use has been found to be the cause of increased cases of depression, anxiety, attention deficit, bipolar disorder, autism, and various behavioral disorders in children (Kartika, 2014). This condition is certainly concerning and should be addressed immediately.
Numerous prior research indicate that nomophobia can be managed in an individual’s self-control. According to Marsela & Supriana (2019), self-control, which is a psychological variable, involves three main concepts: the ability to change behavior, the ability to manage unwanted information by interpreting it, and the ability to choose actions. Individuals with low self-control tend to frequently use smartphone apps, particularly social media, as they feel a sense of euphoria when responding to certain events (Putri et al., 2023). In contrast, individuals with high self-control can adjust to the situation, give full attention to the other person when communicating, stop activities to use smartphones, and focus on the conversation (Marsela & Supriatna, 2019). Low self-control increases the risk of pathological smartphone use, where excessive use is triggered by personal satisfaction and pleasure (Jiang & Zhao, 2016). Aspects of self-control include self-discipline, non-impulsive actions, healthy habits, self-regulation, and self-reliability (Adetya & S., 2023).

In addition to self-control, loneliness is also related to nomophobia. Loneliness perceived by individuals can be one of the triggers for excessive smartphone use (Subagio & Hidayati, 2017). Aziz & Nurainiah (2018) noted that teenagers prefer to communicate with their friends who are fellow smartphone users rather than interacting directly with friends who are around them. Wright & Silard (2022) explained that when individuals feel alienated from the group or unable to share their concerns, they tend to feel lonely. As a result, according to Li et al. (2021), individuals who feel lonely tend to experience depression and lack of happiness, leading them to seek escape by overusing social media or social interaction applications on their mobile phones. This can then trigger the emergence of nomophobia.

Lonely teenagers often rely on social media and smartphones to minimize their loneliness and feel virtually connected to others. However, overuse of smartphones can lead to nomophobia in teenagers. They feel anxious and restless when they cannot access or connect with their friends through social media, which can worsen their feelings of loneliness. Teenagers are caught in a cycle between loneliness and nomophobia, struggling to build meaningful social relationships and relying on social media as a substitute for real social interaction, which ultimately deepens their loneliness and social dissatisfaction (Firdauz & Kustanti, 2023). Aspects of loneliness, according to Nisa & Lestari (2023), include personality discipline, social desirability and depression.

In general, excessive smartphone use in teenagers can lead to nomophobia and negatively impact their physical and psychological health. Personality, self-esteem, gender and age are also contribute to the level of nomophobia. In addition, teenagers with low self-control and loneliness tend to be more prone to developing nomophobia. Teenagers with low self-control and loneliness tend to be more vulnerable to nomophobia because they rely on smartphones as a means of social interaction and emotional experience, so they have unconsciously used...
them excessively, making them addicted to smartphones which cause anxiety or worry when they are away from smartphones (Aprilia, 2020). Therefore, this research aims to determine the influence between self-control and loneliness with nomophobia tendencies in teenagers.

RESEARCH METHODOLOGY

This particular research is of the quantitative type. In the social sciences, quantitative research is a technique for gathering and evaluating numerical data (Bunteng, 2023). It entails the methodical empirical study of observations using computational, mathematical, or statistical methods (Sugiyono, 2019). The population in this quantitative research is early teenagers aged 12-15 years. The sample obtained from the G*Power application analysis with an effect size of 0.3, a power of 0.90, and a probability of error of 0.05 shows a minimum sample of 92 teenagers. However, the number of samples collected through distributing questionnaires in Google Form to the subjects reached 163 respondents. The sampling technique applied in this research was probability sampling. The method adopted is simple random sampling, where the sample is taken in a simple random manner by ensuring that all members of the population have been included in the master list and the subject is randomly selected from the master list (Sugiyono, 2017). The measuring instruments used in this research are the nomophobia scale and self-control scale which are arranged using a Likert scale model based on aspects of nomophobia and self-control with five alternative answer choices. Meanwhile, the loneliness scale uses the UCLA Loneliness Scale which was previously translated and compiled by (Faradhiga, 2015).

RESULT AND DISCUSSION

In the validity test of the nomophobia measuring instrument consisting of 34 items, scores ranged from 0.353 to 0.680, without any items being eliminated, and resulted in a Cronbach’s Alpha value of 0.941. Similarly, the validity test of the self-control measuring instrument consisting of 21 items, scores ranged from 0.373 to 0.726, without any eliminated items, and resulted in a Cronbach’s Alpha value of 0.904. Furthermore, the validity test of the loneliness measuring instrument consisting of 21 items, scores ranged from 0.364 to 0.668, without any eliminated items, and resulted in a Cronbach’s Alpha value of 0.884. The research’s assumption tests include those for heteroscedasticity, multicollinearity, linearity, and normality.
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Table 1. Results of Normality Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>P</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nomophobia</td>
<td>0.051</td>
<td>Scores are normally distributed (p &gt; 0.05)</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Table 1 reveals that the p value = 0.051 (p > 0.05), thus, it can be determined that the Nomophobia data is normally distributed.

Table 2. Results of Linearity Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>p</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-control – Nomophobia</td>
<td>1.024</td>
<td>0.445</td>
<td>Linear</td>
</tr>
<tr>
<td>Loneliness – Nomophobia</td>
<td>0.927</td>
<td>0.592</td>
<td>Linear</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Referring to Table 2, it can be seen that the p value = 0.445 (p > 0.05), thus, there is a significant linear correlation between self-control variables and nomophobia. In the linearity test results on the loneliness variable with nomophobia, the p value = 0.592 (p> 0.05) was obtained, hence, there is a significant linear correlation between the loneliness variable and nomophobia.

Table 3. Results of Multicollinearity Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tolerance</th>
<th>VIF</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-control</td>
<td>0.309</td>
<td>3.240</td>
<td>No multicollinearity</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Based on Table 3, the multicollinearity test is obtained with the results of tolerance = 0.309 (tolerance> 0.10) and VIF value = 3.240 (VIF = 10.0). Thus, it can be determined that there is no multicolinearity between the self-control variable and the nomophobia variable.

Table 4. Results of Heteroscedasticity Test

<table>
<thead>
<tr>
<th>Rho Variables</th>
<th>p</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Control with ABS_RES</td>
<td>0.106</td>
<td>No heteroscedasticity</td>
</tr>
<tr>
<td>Loneliness with ABS_RES</td>
<td>0.100</td>
<td>No heteroscedasticity</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Based on table 4, the heteroscedasticity test on the self-control variable obtained a significance value of 0.106 (p>0.05). This indicates that heteroscedasticity does not occur. Meanwhile, the results of the heteroscedasticity test for the loneliness variable obtained a significance value of 0.100 (p>0.05). This also implies that heteroscedasticity does not occur.
The following are the results of research which are the results of data analysis from hypothesis testing conducted using multiple linear regression analysis through the SPSS 25 program.

Table 5. Results of Multiple Analysis Test

<table>
<thead>
<tr>
<th>Model</th>
<th>t Partial</th>
<th>p</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-control and Loneliness with Nomophobia</td>
<td>1.467</td>
<td>0.023</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

According to Table 5, the correlation between self-control and loneliness with nomophobia obtained a coefficient value of $t = 1.467$ with significance $= 0.023$ ($p < 0.05$). This proves that the first hypothesis in the research is significant, which is that self-control and loneliness have a significant correlation with nomophobia. The lower the self-control and the higher the loneliness in individuals, the higher the level of nomophobia is experienced.

Table 6. Results of Partial Analysis Test of Self-Control with Nomophobia

<table>
<thead>
<tr>
<th>Model</th>
<th>t Partial</th>
<th>p</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-control with Nomophobia</td>
<td>-1.624</td>
<td>0.016</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Table 6 indicates the partial test results of self-control with nomophobia obtained the coefficient value $t = -1.624$ with significance $= 0.016$ ($p < 0.05$). This proves that the second hypothesis in the study is significant, that self-control has a significant positive relationship with nomophobia. Individuals with a better level of self-control exhibit less nomophobia.

Table 7. Partial Analysis Test Results of Loneliness with Nomophobia

<table>
<thead>
<tr>
<th>Model</th>
<th>t Partial</th>
<th>p</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness with Nomophobia</td>
<td>1.653</td>
<td>0.010</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: SPSS 25 Output

Table 7 indicates the partial test results of loneliness with nomophobia obtained a coefficient value of $t = 1.653$ with significance $= 0.010$ ($p < 0.05$). This suggests that loneliness has a significant positive relationship with nomophobia. People who feel greater levels of loneliness may also exhibit higher levels of nomophobia.

The purpose of this research is to investigate the connection between loneliness and self-control in nomophobia. Referring to the findings of the first hypothesis in this research, it is proven that self-control and loneliness are positively related to nomophobia in teenagers. From the results of the research, a significant relationship was also found between individual self-control, feelings,
and behaviors of loneliness with the high tendency of nomophobia in teenagers. The existence of high self-control, such as the ability to control bad habits in daily life, may reduce the level of nomophobia. Adolescents who have confidence in interacting with others, tend to not experience loneliness in their daily lives, thus not triggering the occurrence of nomophobia.

Previous research from Fathoni & Asiyah (2021) found that self-control and loneliness have a close relationship with nomophobia in teenagers. Self-control contributed 2.7%, while loneliness contributed 9.4%. Loneliness was more influential than self-control. Excessive smartphone use has a negative impact and interferes with daily activities. A proper self-control is necessary when using a smartphone to limit its use and avoid its negative impacts. Therefore, self-control is an essential factor in controlling behavior, especially in the use of smartphones.

The study conducted by Aprilia (2020) presents findings that loneliness with nomophobia tendencies shows a C.R. value of 1.332, which is less than or equal to 1.96, and a P value of 0.183, which is greater than 0.05, indicating that loneliness has no significant influence on nomophobia tendencies. In contrast, self-control with nomophobia tendency shows a C.R. value of -7.059, which is greater than or equal to 1.96, and a P value of 0.000, which is less than 0.05, indicating that self-control has a significant negative influence on nomophobia tendency.

The use of cell phones to communicate is considered more efficient and practical, and can shorten distances and speed up time, thus providing pleasure and comfort in individual activities. However, this also results in a decrease in the intensity of individual interactions with others. This is in accordance with the opinion of Bragazzi & Del Puente (2014) which states that one of the characteristics of dependence on cell phones is the lack of face-to-face social interaction with others, preferring to use cell phones to communicate.

The second hypothesis in this research is proven, showing a correlation between the level of self-control and nomophobia in teenagers. The findings revealed a strong correlation between teenagers’ high levels of nomophobia tendencies and self-control. Individuals who experience nomophobia feel anxious when they cannot contact or be contacted by others. When the level of self-control is low, the individual is unable to control the habit of carrying a smartphone everywhere they go. Furthermore, individuals who experience nomophobia feel uncomfortable when they cannot access information or search using their smartphone. People who struggle with self-control tend to feel anxious if they do not receive text messages, calls, or are disconnected from social media.

Individuals with low levels of self-control are more likely to spend hours playing smartphones, despite feeling exhausted and losing sleep overnight due to the activity. Low self-control often occurs in teenagers, as during this time, teenagers are going through a transitional phase where they want to gain
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recognition from their peer group. Therefore, it is important to work on improving self-control in teenagers by limiting their smartphone use.

Previous studies from Asih & Fauziah (2017) found a particular and opposite correlation between the level of self-control and anxiety when away from smartphones. Anxiety levels decrease with increasing self-control when a person is not using their smartphone. On the contrary, when people with a lack of self-control are not using their smartphones, they frequently feel more anxious. Self-control plays an important role in the emergence of smartphone separation anxiety in individuals.

Another research conducted by Anugrah et al. (2022) also confirmed a significant negative relationship between the level of self-control and anxiety when away from smartphones. The higher an individual’s level of self-control, the lower the level of anxiety they experience when separated from their smartphone. Conversely, individuals with low levels of self-control tend to experience higher levels of anxiety when separated from their smartphones.

Research by Perang & Gertrudis (2022) also supports these findings, revealing a relationship between self-control and nomophobia among nursing students in Makassar. They recommended that students improve their self-control, especially in the use of smartphones, by being wiser in their use of smartphone. They also recommended participating in more useful activities or organizations, having frequent discussions with friends, and not only relying on smartphones, as well as increasing communication between fellow nursing students.

The results of research by Fajri & Karyani (2021) suggest that the intensity of social media use and the level of self-control are significantly correlated with nomophobia. The findings also revealed that there was no difference in the level of nomophobia between male and female individuals. Excessive use of social media may lead to negative impacts that affect individual activities. Therefore, it is expected that with a good level of self-control, individuals can set limits in their smartphone usage, thereby avoiding any negative impacts that may arise.

Research by Noorisa & Hariyono (2022) also revealed that self-control has a significant influence on nomophobia in teenagers in Banjarmasin. The significance value (p) of 0.034 < 0.05 indicates a significant relationship between the two variables. The effective contribution given by self-control to nomophobia is 1.4%. Teenagers are therefore expected to use smartphones more responsibly by controlling how much time they spend on them and not only using them as a source of entertainment.

Bragazzi & Del Puente (2014) noted that teenagers with low levels of nomophobia tend not to use smartphones as a tool to avoid social activities or seek distractions that are only related to smartphone use. They believe that teenagers who are not dependent on smartphones tend to engage in various other activities related to social interaction, such as extracurricular activities, tutoring, or participation in activities in the school environment such as art, social activities,
The third hypothesis in this research was also proven, implying that there is a positive relationship between loneliness and nomophobia in teenagers. The research findings found a significant correlation between feelings and behaviors of loneliness with high levels of nomophobia tendencies in teenagers. Teenagers who experience loneliness, either due to lack of friends or low self-confidence, tend to have higher levels of nomophobia. They find it difficult to form close relationships with others, feel alienated from the group, and often feel alienated. Loneliness also affects how they interact with others, where they feel uncomfortable in communicating with new people, tend to be nervous in social situations, and worry about judgment and criticism from others.

In an effort to overcome feelings of loneliness and to feel connected to others, teenagers often choose to use their smartphones as a means of entertainment and distraction. However, this tendency also increases the risk of nomophobia. They become anxious if they lose connection with their smartphones, get disconnected from online networks, or lose access to social media and information. In addition, the feelings of discomfort and anxiety when they are unable to use their smartphones indicate a dependence on the device. These findings are consistent with the results of previous studies, which confirmed that smartphone use can be one of the factors that increase nomophobia in teenagers.

Previous research conducted by Irham et al. (2022) revealed a correlation between loneliness and nomophobia in overseas students at Universitas Negeri Makassar. The findings indicated that migrant students who experience loneliness significantly have a tendency to experience higher levels of nomophobia, without any difference in the level of loneliness and nomophobia based on gender. Research by Kenny et al. (2023) also confirmed the positive relationship between nomophobia and loneliness. They discovered that nomophobia accounts for around 70.5% of the effective contribution to loneliness, with the remaining 29.5% impacted by other characteristics such as age, weak self-awareness and low self-esteem.

The study of Nugraha et al. (2022) showed a similar relationship between nomophobia and loneliness in students of Universitas Bhayangkara Jakarta Raya. The findings suggest that high levels of nomophobia correlate with high levels of loneliness, and vice versa. In addition, Firdauz & Kustanti (2023) discovered a significant positive relationship between loneliness and anxiety away from smartphones in grade XI adolescents at SMA Negeri 1 Tegal. They concluded that the higher the level of loneliness experienced by students, the higher the level of anxiety away from their smartphones, and vice versa.

Loneliness is explained as subjective anxiety that arises when social relationships lose their quality, both quantitatively and qualitatively (Barjaková et
al., 2023). Gezgin et al. (2018) states that the characteristics of people who experience nomophobia include feelings of emptiness or loneliness, anxiety when not using a smartphone, frequent smartphone checking behavior, disappointment when the battery runs out, and worry when losing access or unable to use a smartphone.

CONCLUSIONS AND SUGGESTIONS

Conclusions

The first hypothesis proposed is that there is a positive correlation between self-control and loneliness with nomophobia. This indicates that the two independent variables, both self-control and loneliness have a significant correlation with nomophobia. The second hypothesis presented is that there is a negative correlation between self-control and nomophobia. This suggests that the second hypothesis that self-control is negatively correlated with nomophobia is significant. The assumption is that the higher the self-control in individuals, the lower the level of nomophobia experienced. The third hypothesis proposed is that there is a positive correlation between loneliness and nomophobia. This indicates that the third hypothesis which reads loneliness is positively correlated with nomophobia is significant. The assumption is that the higher the loneliness in individuals, the higher the level of nomophobia experienced.

Suggestions

There are several suggestions to help teenagers resolve issues related to self-control, loneliness and nomophobia. It is advised that teenagers get involved in social activities they find interesting or hang out with friends and family in order to widen their social network. Getting involved in communities or clubs related to hobbies or interests can also help them meet new people. Focusing on activities can also help distract from loneliness and social anxiety. It is also important to find motivating hobbies or activities, such as sports, art, reading, and so on. These activities can help teenagers feel more connected to themselves and improve their overall sense of well-being. This is followed by limiting the daily consumption of social media. While social media can provide a sense of connection with others, excessive use of it may exacerbate loneliness and social anxiety. It would be best for teenagers to limit their time on social media platforms and consider doing a social media detox once in a while to give themselves more time and attention and real-world social interactions.

In addition, there are some suggestions to help parents handle self-control, loneliness and nomophobia in teenagers. First, maintain open communication with teenagers and be a good listener. Create a comfortable environment for them to share their thoughts and feelings without fear of judgment. Next, set clear boundaries on the use of technology, including cell phones and social media. Discuss with them the importance of wise time management and the importance
of reducing exposure to social media, which can increase feelings of loneliness or self-control. It is also important to have a structured family schedule that provides time to interact and engage in activities together. Encourage teenagers’ participation in social activities outside of school and engage them in hands-on social interaction activities.

REFERENCES


