



# **The Influence of Loneliness on Nomophobia in Adolescents: A Systematic Review**

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## **ABSTRACT**

Nomophobia (no mobile phone phobia) is one of the problematic uses of mobile phones. Adolescents experiencing nomophobia often feel a lack of close relationships from direct communication, known as loneliness, and thus turn to smartphones as a medium of communication. This systematic review aims to analyze journals regarding the influence of loneliness on nomophobia in adolescents. The literature review indicates that the variable loneliness has an impact on nomophobia in adolescents. Several studies have found a significant and positive relationship between loneliness and nomophobia in adolescents. Besides being an independent variable, loneliness can also serve as a mediating variable between mobile phone usage and nomophobia. It is important to address nomophobia and its potential impact on mental well-being. Interventions addressing both nomophobia and loneliness are necessary to reduce the risk of increased stress among adolescents.

Keywords: Loneliness, nomophobia, adolescents, systematic review

## **Introduction**

Nomophobia (no mobile phone phobia) is a problematic use of mobile phones characterized by anxiety or discomfort caused by being out of smartphone contact (Yildirim & Correia, 2015). According to Yildirim (2014), nomophobia is more accurately classified as a situational phobia. The diagnostic criteria for nomophobia were first compiled by Bragazzi & Puente based on a comprehensive literature review, including behaviors such as always carrying a charger, keeping the smartphone on 24 hours a day, and constantly checking messages and calls (Enez, 2021).

High levels of nomophobia during adolescence negatively impact adolescents' psychological, social, and academic aspects. A qualitative study conducted by Onal (2019) on adolescents' feelings about the absence of smartphones found that participants equated being away from their phones with losing important people and losing their identity. Socially, according to Fadhilah et al. (2021), nomophobia can lead to a lack of direct communication, increased apathy towards surroundings, and a sense of individualism or not needing real interpersonal interactions. Academically, nomophobia can cause attention deficits (Kirac, 2019), adjustment problems in social and professional fields (Sachdeva et al., 2018), and deterioration in intellectual thinking skills (Sahin & Bulbuloglu, 2021).

The phenomenon of nomophobia in adolescents is widespread globally. Research in South Korea found that smartphone addiction levels, referred to as nomophobia, are higher than internet addiction (Kim, 2013). In India, a study conducted on 200 students found that 39.5% were nomophobic, and 27% were at risk of developing nomophobia (M B et al., 2015). In Turkey, 43% of university students exhibited nomophobia (Yildirim et al., 2016). Similarly, the prevalence of nomophobia among high school students is above average (Gezgin & Cakir, 2016).

Adolescent nomophobia levels are also influenced by how adolescents interact and form relationships with others. According to Havighurst, one of the developmental tasks of adolescence is to establish communication and achieve more mature relationships with others, both with the same and opposite genders (Santrock, 2007). Adolescents experiencing nomophobia, according to Bragazzi and Puente (2014), tend to have fewer face-to-face social interactions, which is thought to cause anxiety, stress, and a preference for communication through new technology. This aligns with Durak's (2018) assertion that adolescents tend to avoid direct interaction with others, turning instead to smartphone use and increasing their presence through digital media. In other words, adolescents experiencing nomophobia feel a lack of closeness from direct communication, thus turning to smartphones for communication.

The feeling of lacking close relationships is also known as loneliness (Russell et al., 2012). Loneliness can be caused by a lack of social communication, not being part of social groups, or lacking emotional closeness with one's environment, and adolescence may be the stage where feelings of loneliness are most intensely felt (Duy, 2003). Technology also replaces the intimacy of human relationships with superficial communication, leaving individuals

without intimate and quality interactions with others, thus increasing loneliness (Turkle, 2011). Nomophobia results from the fear of loneliness, leading adolescents to use smartphones excessively for communication and information (Rahayuningrum & Sary, 2019).

Based on the above explanation, several studies highlight the importance of the loneliness variable on the nomophobia variable in adolescents. Therefore, this systematic review aims to fill the gap in reviews regarding the types of loneliness variables and how the dynamics of the loneliness variable can influence nomophobia. This systematic review study is expected to provide information on efforts to reduce nomophobia, benefiting adolescents, parents, and serving as a basis for future research.

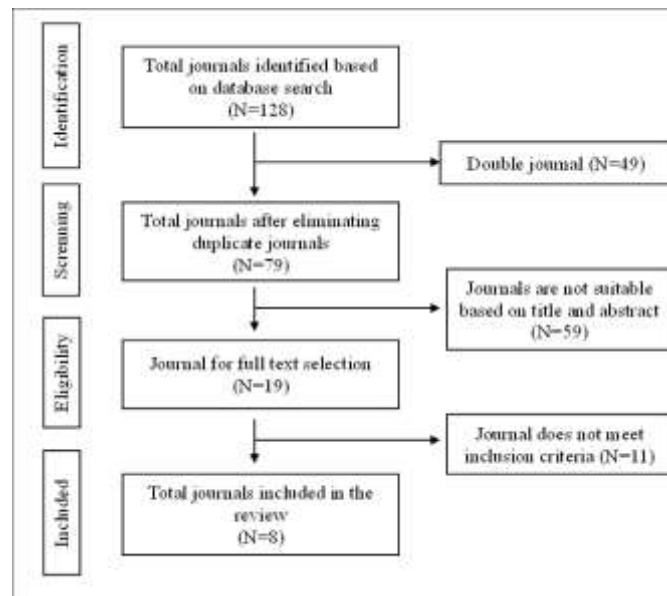
## METHODS

The purpose of this systematic review is to analyze journals regarding the influence of loneliness on nomophobia in adolescents. There are several processes involved in conducting a systematic review, including planning the review (identifying benefits and developing), conducting the review (journal search, selection of primary journals, quality assessment, data extraction, and synthesis), and reporting (Kitchenham, 2004). The planning stage of the review by the authors began with formulating the research question using the systematic review question formulation, SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research Type). The research question in this review is: how does the dynamic influence of loneliness on nomophobia in adolescents? Subsequently, the authors determined the search terms and designed the search protocol. The terms were derived from the research question and expanded into comprehensive search keywords. The search keywords used were loneliness, alienation, isolation, nomophobia, no-mobile-phone phobia, fear of being without mobile phone, adolescent, young age, and teen. These search keywords were used to find articles in the databases ResearchGate, PubMed, and Google Scholar.

The next step involved checking all journals for duplicates using Mendeley and Rayyan. The authors screened all journals that passed the duplication check based on their titles and abstracts. Journals that passed the title and abstract screening were then analyzed based on the full version of the journals. After the selection process from the 128 journals found, 8 journals discussing the role of loneliness on nomophobia in adolescents were obtained. The flowchart of the journal selection process can be seen in Figure 1. The authors set the following criteria for this review: (1) journals that discuss adolescent nomophobia as the dependent variable and loneliness as the independent variable, (2) subjects are adolescents, (3) both quantitative and qualitative research types, (4) journals in English, and (5) studies conducted between 2018 and 2023. Journals not included in the criteria are: (1) journals discussing nomophobia and loneliness outside the context of adolescents, (2) not written in English, (3) articles in the form of reviews, reports, books, literature reviews, and studies with unclear methodologies.

**Picture 1**

PRISMA Chart for Journal Selection Flow



## RESULTS

Adolescents are the most vulnerable category to experiencing nomophobia because they rely on smartphones for communication and information gathering. Nomophobia is the feeling of anxiety or discomfort caused by being out of smartphone contact (Yildirim & Correia, 2015a). Several factors contribute to adolescent nomophobia. Adolescents are already among the groups that own smartphones, and excessive smartphone use can become a problem of smartphone addiction (Sari et al., 2022). More adolescents are using technology, especially smartphones, and are encountering problems in

its use (Hestia et al., 2021). Thus, it can be concluded that adolescents are more susceptible to experiencing nomophobia because they rely on smartphones for communication and information gathering.

According to Yildirim's conceptualization (Yildirim, 2014), nomophobia consists of four dimensions. The first is not being able to communicate, which refers to the feeling of suddenly losing the ability to communicate with others immediately. The second is losing connectedness, which refers to the feeling of losing connectivity or internet signal on the smartphone. The third is not being able to access information, which refers to the inability to access information. The fourth is giving up convenience, which refers to the feeling of giving up the ease provided by smartphones.

Several factors can influence nomophobia in adolescents. One significant factor is the situational factor of loneliness. This review was conducted to determine whether there is an influence between loneliness and nomophobia and how their relationship is described as follows:

**Table 1**

Discussion List of the Influence of Loneliness on Nomophobia in Adolescents

No	Author	Subject	Result
1	Çolak & Alçinkaya-Önder (2020)	452 high school students	The level of nomophobia is quite high among students; however, there are no significant differences based on the factors examined in the study. Additionally, they found that as the time spent with smartphones increased, the level of loneliness decreased.
2	Dehghanian & Bordbar (2023)	150 adolescent 15-17 years old	Loneliness can positively and significantly predict nomophobia in adolescents in Shiraz.
3	Faiz <i>et al.</i> (2023)	145 adolescent 15-18 years old	Loneliness has a positive relationship with nomophobia in adolescents. This indicates that loneliness contributes to the tendency of nomophobia in adolescents.
4	Gezgin <i>et al.</i> (2018)	301 adolescent 13-19 years old	There is a significant relationship between the level of loneliness in adolescents and their level of nomophobia. This indicates that the level of loneliness in adolescents can predict their level of nomophobia to some extent.
5	Kara <i>et al.</i> (2019)	274 adolescent 15-17 years old	Loneliness has a relationship and is a predictor of the level of nomophobia in adolescents.
6	Kılınç <i>et al.</i> (2023)	Adolescent 13-19 years old	There is a weak positive correlation between the level of nomophobia and loneliness among high school students in rural areas.
7	Nguyen <i>et al.</i> (2022)	556 adolescent 16-18 years old	There is a positive correlation between loneliness and nomophobia, where higher levels of loneliness increase the risk of developing nomophobia.
8	Purnama <i>et al.</i> (2020)	241 adolescent 12-21 years old	Loneliness and nomophobia have a significant relationship, especially among adolescents.

Adolescents are the group most vulnerable to experiencing nomophobia, primarily due to their dependence on smartphones for communication and information seeking. Nomophobia, characterized by anxiety or discomfort resulting from being out of smartphone contact (Yildirim & Correia, 2015), is becoming increasingly common among adolescents. Several factors contribute to this phenomenon. Adolescents represent a key demographic that owns smartphones, and excessive use can lead to smartphone addiction (Sari et al., 2022). The widespread use of technology, particularly smartphones, exacerbates usage problems among adolescents (Hestia et al., 2021). Therefore, it can be concluded that adolescents are more susceptible to nomophobia because they rely on smartphones as tools for communication and information.

The study results regarding the relationship between loneliness and nomophobia in adolescents indicate that among the eight journals analyzed, one found that the level of nomophobia is quite high among students, but there is no significant difference based on the factors examined in the study. Additionally, they found that as the time spent with smartphones increases, the level of loneliness decreases (Çolak & Yalçinkaya-Önder, 2020). Furthermore, there is an identified influence of loneliness on nomophobia in adolescents (Kara, 2021; Gezgin D. M., 2018; Purnama et al., 2021). Loneliness can serve as a mediating variable between smartphone use and nomophobia. Loneliness and anxiety have been identified as mediating factors in the relationship between smartphone use and nomophobia. Adolescents with higher levels of loneliness and anxiety are more likely to exhibit nomophobic behavior (Kara, 2021).

The variable loneliness has been found to have a significant and positively correlated relationship with nomophobia (Dehghanian & Bordbar, 2023; Faiz et al., 2023; Kılınc, 2022; Nguyen et al., 2022). This means that the higher the level of loneliness, the higher the level of nomophobia in adolescents. Daily smartphone use directly impacts nomophobia and is triggered by factors such as loneliness and anxiety (Faiz et al., 2023). Factors such as smartphone usage habits and loneliness are associated with higher levels of nomophobia among high school students in rural areas (Kılınc, 2022). It is crucial to address nomophobia and its potential impacts on mental well-being, particularly among high school students during the Covid-19 pandemic. Interventions addressing nomophobia and loneliness are necessary to reduce the risk of increased stress among adolescents (Nguyen et al., 2022).

These findings highlight the complex relationship between loneliness and nomophobia in adolescents. Dependence on smartphones as a means to alleviate feelings of loneliness may increase the risk of developing nomophobia. This cyclical relationship suggests that interventions should not only focus on reducing smartphone dependence but also on fostering direct social interactions and emotional support systems for adolescents. Further research should explore the role of other psychological factors, such as self-esteem, social anxiety, and depression, in the relationship between loneliness and nomophobia. Understanding these additional variables can provide a more comprehensive framework for developing effective intervention strategies.

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## CONCLUSION

The variable loneliness has an influence on nomophobia in adolescents. Several studies have found that loneliness has a significant and positive relationship with nomophobia in adolescents. Besides being an independent variable, loneliness can also be used as a mediating variable between smartphone use and nomophobia. Addressing nomophobia and its potential impact on mental well-being is crucial, and interventions that address both nomophobia and loneliness are necessary to reduce the risk of increased stress among adolescents.

Based on the review, the number of studies discussing the influence or relationship between loneliness and nomophobia is still limited. Further research is needed on these variables, including direct relationships, mediating variables, and moderating variables.

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