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Relationship Between Nomophobia, Depression, and Anxiety in Adolescents

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A B S T R A C T

The aim of the present study was to investigate the relationship between nomophobia, depression, and anxiety among male adolescents aged 12 to 18 years in high schools of Sabzevar County. In terms of purpose, this study was fundamental research, and in terms of methodology, it employed a descriptive-correlational design. The statistical population included male adolescents aged 12 to 18 years attending high schools in Sabzevar County during the 2023–2024 academic year. According to statistics provided by the Ministry of Education of this city, the population consisted of 1,031 students. A total of 278 participants were selected through non-probability convenience sampling based on the Morgan table. The research instruments included the Nomophobia Questionnaire developed by Yildirim and Correia (2015), the Aaron T. Beck Depression Inventory (1978), and the Aaron T. Beck Anxiety Inventory (1988). Data were analyzed using Pearson correlation coefficient and simultaneous regression analysis. The results indicated that students' depression and anxiety were predicted by the nomophobia variable ($p < .001$). Based on the findings, it can be concluded that depression and anxiety may result from changes in the nomophobia variable among male adolescents aged 12 to 18 years in high schools of Sabzevar County.

Keywords: *Nomophobia, depression, anxiety, students.*

1. Introduction

The rapid advancement of communication technologies and the widespread accessibility of smartphones have profoundly transformed the daily lives of adolescents. Smartphones are no longer limited to communication purposes; rather, they have become multifunctional tools used for social interaction, entertainment, academic activities, information seeking, and emotional regulation. Although these technologies provide numerous advantages, excessive dependence on smartphones has led to the emergence of various psychological and behavioral problems. One of the most prominent phenomena associated with problematic smartphone use is nomophobia, commonly defined as the fear or anxiety experienced when individuals are unable to access or use their mobile phones. Nomophobia has increasingly attracted the attention of researchers in psychology, psychiatry, behavioral sciences, and educational sciences because of its growing prevalence and its potential consequences for mental health and psychosocial functioning among adolescents and young adults (Azadmanesh et al., 2016; Wen et al., 2023).

The concept of nomophobia originates from the phrase “no mobile phone phobia” and refers to the discomfort, anxiety, or distress individuals experience when they are unable to communicate through their smartphones, access online information, maintain social connectedness, or use digital services. Contemporary adolescents are particularly vulnerable to nomophobia because smartphones constitute an integral part of their developmental and social environments. Adolescence is characterized by identity formation, emotional sensitivity, increased peer orientation, and heightened needs for social acceptance. Consequently, dependence on digital communication tools during this developmental stage may intensify emotional vulnerability and psychological distress. Research has demonstrated that adolescents who exhibit high levels of nomophobia often experience emotional instability, impaired interpersonal relationships, and maladaptive coping strategies (Ayaz-Alkaya & Kulakçı-Altıntaş, 2025; Liang, 2024).

Recent empirical evidence suggests that nomophobia is not merely a technological dependency but also a multidimensional psychological phenomenon associated with emotional dysregulation, maladaptive cognitions, loneliness, and psychological disorders. Studies have shown that individuals with higher levels of nomophobia tend to demonstrate greater emotional vulnerability, reduced self-efficacy, and increased psychological distress. In this regard, Albikawi and Abuadas identified significant relationships among nomophobia, emotional regulation difficulties, loneliness, and anxiety in nursing students, emphasizing the central role of emotional dysregulation in the development of anxiety symptoms (Albikawi & Abuadas, 2025). Similarly, Liang demonstrated that attachment anxiety contributes significantly to nomophobia, suggesting that insecure interpersonal attachment patterns may predispose individuals to excessive smartphone dependence and associated emotional disturbances (Liang, 2024).

Among the psychological outcomes associated with nomophobia, depression has received substantial scholarly attention. Depression is one of the most prevalent mental health disorders during adolescence and is characterized by persistent sadness, hopelessness, low self-esteem, reduced motivation, and cognitive dysfunction. Researchers have increasingly argued that problematic smartphone use and nomophobia may contribute to depressive symptoms by disrupting sleep patterns, reducing face-to-face social interactions, increasing social comparison, and promoting emotional dependency on virtual communication. Sharma and colleagues reported a significant association between nomophobia and depression among adolescents, indicating that excessive smartphone dependence negatively influences emotional well-being and quality of life (Sharma et al., 2019). Likewise, Güveli and colleagues found that adults with higher levels of nomophobia also exhibited increased depressive symptoms and loneliness, highlighting the psychological burden associated with excessive mobile phone dependency (Güveli et al., 2024).

The relationship between nomophobia and depression may be explained through several theoretical mechanisms. Excessive smartphone use can lead to social isolation despite apparent online connectedness, thereby reducing meaningful interpersonal interactions and emotional support. Furthermore, adolescents with depressive tendencies may use smartphones excessively as a maladaptive coping mechanism to escape negative emotions and stressful life circumstances. Such behavioral patterns may gradually reinforce emotional dependency on smartphones and intensify nomophobic symptoms. Hosseini-Tabaqdehi reported that loneliness and depressive symptoms were positively associated with nomophobia among students, suggesting that emotional deprivation and social dissatisfaction contribute significantly to problematic smartphone attachment (Hosseini-Tabaqdehi, 2021). Similarly, Chamani Arayi proposed a structural model in which depression mediated the relationship between

transdiagnostic variables, such as emotional dysregulation and experiential avoidance, and nomophobia in adolescents (Chamani Arayi, 2023).

Anxiety is another major psychological construct closely associated with nomophobia. Anxiety disorders are highly prevalent during adolescence and often emerge in response to academic pressures, interpersonal challenges, uncertainty regarding the future, and emotional instability. Individuals with high levels of anxiety frequently seek reassurance, constant communication, and immediate access to information, all of which may increase dependence on smartphones. Consequently, separation from smartphones may provoke significant distress, nervousness, and fear, thereby exacerbating nomophobic tendencies. Numerous studies have confirmed the positive relationship between anxiety and nomophobia across different populations. Gnardellis and colleagues demonstrated that nomophobia was significantly associated with depression, anxiety, and stress among young adults in Greece, emphasizing the broad psychological impact of smartphone dependency (Gnardellis et al., 2023). Likewise, Demircioğlu found that nomophobia negatively affected anxiety levels, sleep quality, posture, and physical activity among university students (Demircioğlu, 2024).

The association between anxiety and nomophobia appears to be bidirectional. On one hand, anxious individuals may become increasingly dependent on smartphones for emotional reassurance, social validation, and information seeking. On the other hand, excessive smartphone dependency and fear of disconnection may contribute to heightened anxiety symptoms, particularly when individuals are unable to access their devices. Kara and colleagues demonstrated that loneliness and anxiety mediated the relationship between daily smartphone usage duration and nomophobia, indicating that emotional distress may reinforce problematic smartphone dependence (Kara et al., 2021). Similarly, Ensani Mehr and colleagues found that anxiety-related thoughts mediated the relationship between personality traits, sleep quality, and nomophobia, suggesting that cognitive vulnerability plays a critical role in the development of smartphone-related anxiety (Ensani Mehr et al., 2021).

Social anxiety and interpersonal concerns have also been linked to nomophobia. Adolescents who experience difficulties in social interactions may increasingly rely on smartphones and social media platforms as alternative means of communication because virtual interactions often provide greater perceived control and reduced fear of negative evaluation. However, this dependence may intensify emotional vulnerability and increase fear of losing digital connectedness. Ayaz-Alkaya and Kulakçı-Altıntaş demonstrated that social media addiction mediated the relationship between nomophobia and social anxiety among adolescents, emphasizing the interconnected nature of these psychological constructs (Ayaz-Alkaya & Kulakçı-Altıntaş, 2025). Furthermore, Bulut and Sengul found that gender moderated the relationship between nomophobia and social interaction anxiety in university students, suggesting that sociocultural and gender-related factors may influence the severity and expression of nomophobic symptoms (Bulut & Sengul, 2024).

Another important dimension of nomophobia involves the fear of missing out (FoMO), which refers to the apprehension that others may be experiencing rewarding events without one's participation. Adolescents are especially susceptible to FoMO because peer relationships and social approval are highly salient during this developmental stage. Smartphones and social networking platforms provide constant access to social information, making adolescents increasingly concerned about remaining continuously connected. Wen and colleagues reported that nomophobia was strongly associated with smartphone usage content and fear of missing out, indicating that psychological dependency on social connectedness plays a central role in nomophobic behavior (Wen et al., 2023). This continuous need for connectivity may increase psychological distress, emotional exhaustion, and anxiety when access to smartphones is disrupted.

The psychological consequences of nomophobia are not limited to emotional disorders alone. Researchers have suggested that nomophobia may negatively affect sleep quality, concentration, academic performance, interpersonal functioning, and physical health. Adolescents with severe nomophobia often experience sleep disturbances due to excessive nighttime smartphone use, which may further contribute to emotional instability and depressive symptoms. Moreover, excessive engagement with smartphones may reduce physical activity and impair real-life social relationships. Demircioğlu highlighted the detrimental effects of nomophobia on sleep quality and physical activity, suggesting that problematic smartphone use affects both psychological and physical well-being (Demircioğlu, 2024). These findings underscore the multifaceted nature of nomophobia and its broader implications for adolescent health.

In recent years, researchers have increasingly conceptualized nomophobia within transdiagnostic frameworks of psychopathology. Rather than viewing nomophobia as an isolated behavioral issue, scholars have proposed that it reflects underlying emotional dysregulation, maladaptive coping strategies, attachment insecurity, impulsivity, and cognitive vulnerability. Awed and Hammad found a significant relationship between nomophobia and impulsivity among deaf and hard-of-hearing youth, suggesting that difficulties in behavioral self-regulation may contribute to problematic smartphone dependence (Awed & Hammad, 2022). Likewise, Chamani Arayi emphasized the role of experiential avoidance and emotional dysregulation in predicting nomophobia among adolescents (Chamani Arayi, 2023). Such findings indicate that nomophobia may serve as an expression of broader emotional and cognitive dysfunctions rather than merely excessive technological use.

Despite the growing body of literature on nomophobia, several gaps remain in the existing research. First, many studies have focused primarily on university students, while fewer investigations have examined adolescent populations, particularly male adolescents in school settings. Second, cultural differences may influence the prevalence and psychological manifestations of nomophobia, highlighting the need for context-specific research in different societies. Third, although previous studies have established associations between nomophobia and psychological distress, the predictive role of nomophobia components in depression and anxiety among adolescents requires further empirical clarification. Delavarpour and colleagues demonstrated that mood status and anxiety sensitivity significantly predicted nomophobia, while gender moderated these relationships (Delavarpour et al., 2019). However, additional research is needed to determine how specific dimensions of nomophobia contribute to depression and anxiety in adolescent populations.

Given the increasing prevalence of smartphone dependency among adolescents and the potential psychological consequences associated with nomophobia, investigating its relationship with depression and anxiety is of considerable theoretical and practical importance. Understanding these relationships may contribute to the development of preventive interventions, psychological counseling programs, and educational strategies aimed at promoting healthier patterns of smartphone use and improving adolescent mental health. Therefore, the present study aimed to investigate the relationship between nomophobia and depression and anxiety among male adolescents aged 12 to 18 years in high schools of Sabzevar County.

2. Methods and Materials

2.1. Study Design and Participants

Considering the objective of the present study, the research was applied in terms of purpose and descriptive-correlational in terms of the method of data collection. The statistical population of this study included male adolescents aged 12 to 18 years attending high schools in Sabzevar County during the 2023–2024 academic year. According to statistics provided by the Ministry of Education of this city, the population consisted of 1,031 students. A total of 278 participants were selected through non-probability convenience sampling based on the Morgan table.

Data collection was descriptive-survey in nature and conducted using a cross-sectional method. After selecting the study group, the objectives of the research were explained to the participants, and participation in the study was entirely voluntary. In order to determine the inclusion criteria, the status of each individual participant was examined separately. Prior to administering the questionnaires and establishing communication with the respondents, informed consent was obtained, appointments were scheduled, and all forms, questionnaires, and required instruments were prepared and reviewed. The researcher also ensured participants' cooperation before implementation. Accordingly, the researcher distributed the questionnaires to the selected participants over a period of approximately three to four weeks. It should be noted that, in compliance with research ethical principles, respect for participants and attention to their well-being throughout the study were carefully considered. All research conditions and a brief explanation of the study objectives were implicitly presented, and instructions for responding to the questions were explained concisely. Subsequently, the questionnaires were distributed to the participants, who were asked to answer the questions and to seek clarification from the researcher whenever any item appeared ambiguous.

2.2. Measures

Beck Depression Inventory: The Beck Depression Inventory was first introduced by Aaron T. Beck in 1961, revised in 1971, and ultimately published in 1978. This questionnaire is suitable for individuals older than 13 years of age with at least six years of formal education. It was

developed based on clinical findings and does not rely on any specific etiological theory of depression. The inventory consists of 21 items related to various symptoms of depression, and during administration, respondents are asked to rate the severity of these symptoms on a 4-point scale ranging from 0 to 3. The items address areas such as feelings of helplessness and failure, guilt, irritability, sleep disturbances, and loss of appetite. Scores range from a minimum of 0 to a maximum of 63, and the severity of depression is determined based on the total score obtained from the selected responses. Results of a meta-analysis conducted on the Beck Depression Inventory by Robert A. Steer and Brown (2000) indicated that its internal consistency coefficients ranged from .73 to .93, with a mean of .86. Test-retest reliability coefficients varied between .48 and .86 depending on the interval between administrations and the characteristics of the population. The correlation coefficient of this questionnaire with the Hamilton Psychiatric Rating Scale for Depression was reported as .73, with the Zung Self-Rating Depression Scale as .76, and with the MMPI Depression Scale as .74. In Iran, the Cronbach's alpha coefficient of the inventory has been reported as .91, and its one-week test-retest reliability coefficient as .96. Since the development of the Beck Depression Inventory, numerous evaluations have been conducted by researchers. Goldman and Metcalf (1965), in an attempt to determine the discriminative validity of depression between depressed and healthy groups, concluded that the score of 17 was an appropriate cut-off point. Moreover, Metcalf reported a high level of correlation between psychiatric clinical questions and the Beck questionnaire. Aaron T. Beck, Steer, and Garbin (1988), in a comprehensive analysis of various studies examining internal consistency, obtained coefficients ranging from .73 to .92, with a mean of .86. Evaluations of content, construct, and discriminant validity, as well as factor analyses, generally demonstrated satisfactory results. The content of the BDI items was developed based on the consensus of clinical experts regarding the pathological symptoms of depressed patients, and six out of the nine DSM-III diagnostic categories for depression were included in the inventory (Beck et al., 1961). Concurrent validity with clinical ratings for psychiatric patients demonstrated correlation coefficients ranging from moderate to high, with values between .55 and .96 and a median correlation of .72 (Beck et al., 1988). Correlations of this test with the Hamilton Depression Rating Scale (.73), the Zung Self-Rating Depression Scale (.76), and the MMPI Depression Scale (.76) have also been reported (Beck et al., 1988). Furthermore, factor-analytic studies generally indicate that the Beck Depression Inventory measures a general depression factor as well as negative self-attitude, performance impairment, and somatic disturbance (Tanaka & Huba, 1984).

Beck Anxiety Inventory: Since the assessment of anxiety symptoms plays a significant role in the diagnosis and treatment of psychological disorders, numerous scales have been developed from different theoretical perspectives, including those by Costello, Endler, and Zung. Examination of these scales suggests that there are likely conceptual and methodological limitations associated with them (Dobson, 1985). In response to these limitations, Aaron T. Beck and his colleagues introduced the Beck Anxiety Inventory in 1990, specifically designed to measure the severity of clinical anxiety symptoms in individuals. The Beck Anxiety Inventory was originally developed by Beck and colleagues in 1988. This questionnaire consists of 21 items encompassing common symptoms of anxiety. Respondents indicate the extent to which they have been distressed by each symptom during the previous week. Responses are scored on a 4-point scale ranging from "Not at all" (0) to "Mildly" (1), "Moderately" (2), and "Severely" (3). Therefore, total scores may range from 0 to 63. This questionnaire demonstrates high reliability. Its internal consistency coefficient (Cronbach's alpha) has been reported as .92, its one-week test-retest reliability as .75, and item-total correlations ranging from .30 to .76. Five forms of validity, including content, concurrent, construct, diagnostic, and factorial validity, have been examined for this instrument, all indicating its high efficiency in measuring the severity of anxiety symptoms.

Yildirim and Correia Nomophobia Questionnaire: This instrument was developed in 2015 by Yildirim and Correia as the first standardized nomophobia assessment tool with the aim of contributing to the nomophobia research literature, identifying and describing its dimensions, and developing a questionnaire for measuring nomophobia. The questionnaire consists of four subscales and 20 items scored on a 7-point Likert scale ranging from 1 ("Strongly disagree") to 7 ("Strongly agree"). Items 10 through 15 assess the subscale "Not being able to communicate," items 16 through 20 assess "Losing connectedness," items 1 through 4 assess "Not being able to access information," and items 5 through 9 assess "Giving up convenience." Yildirim and Correia (2015) reported Cronbach's alpha coefficients for the total scale and the aforementioned subscales as .945, .939, .874, .827, and .814, respectively, indicating strong

internal consistency. Furthermore, in order to evaluate convergent validity, they found a positive correlation between the Nomophobia Questionnaire and the Mobile Phone Involvement Questionnaire developed by Walsh, White, and Young (2010). In Iran, Sayyah, Ghadami, and Azadi (2017) examined the validity and reliability of this questionnaire. The results of exploratory factor analysis demonstrated that the questionnaire consisted of four factors explaining 48% of the total variance. Additionally, Cronbach's alpha coefficients were reported as .81 for the total questionnaire, .81 for "Not being able to access information," .79 for "Giving up convenience," .82 for "Not being able to communicate," and .83 for "Losing connectedness."

2.3. Data analysis

After collecting the completed questionnaires, the obtained data were analyzed via SPSS using descriptive statistics, including frequency tables, means, and standard deviations. In the inferential statistics section, Pearson correlation coefficient and regression analysis were employed to analyze the collected data.

3. Findings and Results

Based on the demographic information, the mean age of the participants was 15.60 years, with a standard deviation of 1.76 years. Furthermore, students in the seventh, eighth, and tenth grades each constituted 17.5% of the sample population. Twelfth-grade students comprised 17.1% of the participants, ninth-grade students accounted for 16.8%, and eleventh-grade students represented 13.6% of the sample.

Table 1

Descriptive Findings of the Study Variables

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Inability to Communicate	25.32	4.83	-0.49	-1.15
Losing Connectedness	20.91	8.19	-0.42	-1.16
Inability to Access Information	16.88	7.01	-0.51	-1.12
Giving Up Convenience	19.00	5.62	-0.25	0.24
Total Nomophobia Score	82.10	22.43	-0.52	-0.88
Depression	32.60	4.83	-0.50	-0.94
Anxiety	25.32	8.19	-0.64	0.45

As presented in Table 1, the highest mean score was related to the total nomophobia score (M = 82.10, SD = 22.43), whereas the lowest mean score was observed for the inability to access information subscale (M = 16.88, SD = 7.01). The skewness coefficients for all variables ranged from -0.25 to -0.64, indicating relatively symmetric score distributions. In addition, kurtosis values ranged from -1.16 to 0.45, suggesting that the distributions of the study variables were within the acceptable range for normality. Depression and anxiety scores also demonstrated moderate variability among participants, with mean scores of 32.60 and 25.32, respectively.

Prior to conducting the inferential statistical analyses, the assumptions underlying parametric tests were examined. The skewness and kurtosis indices for all study variables fell within the acceptable range of ±2, indicating that the distributions did not substantially deviate from normality. Moreover, the absence of extreme kurtosis values suggested that the variables were not significantly peaked or flattened. Therefore, the assumptions of normal distribution and suitability for Pearson correlation coefficient and regression analysis were considered satisfactory.

Table 2

Multiple Regression Analysis for Predicting Depression Based on Nomophobia Components

Model	Predictor Variables	B	SE B	β	t	R	R^2	Adjusted R^2	F	p
1	Inability to Communicate	0.41	0.02	0.79	16.41	0.70	0.49	0.49	269.39	< .001
2	Inability to Communicate	0.25	0.04	0.42	5.76	0.73	0.53	0.52	154.97	< .001
	Inability to Access Information	0.29	0.06	0.34	4.59					< .001
3	Inability to Communicate	0.28	0.04	0.47	6.24	0.73	0.54	0.53	106.95	< .001

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Inability to Access Information	0.29	0.06	0.34	4.71		< .001
Giving Up Convenience	0.12	0.05	0.11	2.38		.020

As shown in Table 2, multiple regression analysis demonstrated that components of nomophobia significantly predicted depression among adolescents. In Model 1, inability to communicate significantly predicted depression ($\beta = 0.79$, $t = 16.41$, $p < .001$) and explained 49% of the variance in depression scores ($R^2 = 0.49$). In Model 2, the addition of inability to access information increased the explained variance to 53% (Adjusted $R^2 = 0.52$), with both inability to communicate ($\beta = 0.42$, $t = 5.76$, $p < .001$) and inability to access information ($\beta = 0.34$, $t = 4.59$, $p < .001$) emerging as significant predictors. In Model 3, giving up convenience was added to the regression equation, increasing the explained variance to 54% (Adjusted $R^2 = 0.53$). In the final model, inability to communicate remained the strongest predictor of depression ($\beta = 0.47$, $t = 6.24$, $p < .001$), followed by inability to access information ($\beta = 0.34$, $t = 4.71$, $p < .001$), while giving up convenience also showed a statistically significant contribution ($\beta = 0.11$, $t = 2.38$, $p = .020$). Overall, the findings indicate that higher levels of nomophobia components were associated with increased depression among the participants.

Table 3

Multiple Regression Analysis for Predicting Anxiety Based on Nomophobia Components

Model	Predictor Variables	B	SE B	β	t	R	R^2	Adjusted R^2	F	p
1	Inability to Communicate	0.51	0.06	0.46	8.59	0.46	0.21	0.21	73.73	< .001

As presented in Table 3, the results of the multiple regression analysis indicated that the inability to communicate component of nomophobia significantly predicted anxiety among adolescents. The regression model was statistically significant, $F(1, 278) = 73.73$, $p < .001$, and explained 21% of the variance in anxiety scores ($R^2 = 0.21$, Adjusted $R^2 = 0.21$). The standardized regression coefficient demonstrated that inability to communicate had a positive and significant effect on anxiety ($\beta = 0.46$, $t = 8.59$, $p < .001$). These findings suggest that higher levels of communication-related nomophobia are associated with increased anxiety among male adolescent students.

4. Discussion

The present study aimed to investigate the relationship between nomophobia and depression and anxiety among male adolescents aged 12 to 18 years in high schools of Sabzevar County. The findings demonstrated that nomophobia and its dimensions were significantly associated with both depression and anxiety among the participants. More specifically, the results of regression analysis indicated that the dimensions of inability to communicate, inability to access information, and giving up convenience significantly predicted depression, while inability to communicate significantly predicted anxiety. Overall, the findings suggest that increased levels of nomophobia are accompanied by elevated psychological distress among adolescents, particularly in the form of depressive and anxious symptoms.

One of the most important findings of the present study was that inability to communicate emerged as the strongest predictor of depression among adolescents. This finding indicates that adolescents who experience distress when they cannot communicate through smartphones are more likely to exhibit depressive symptoms. This result is consistent with previous research demonstrating positive relationships between nomophobia and depression (Gnardellis et al., 2023; Güveli et al., 2024; Sharma et al., 2019). Similarly, Notara and colleagues reported that depression mediated the relationship between perceived health and nomophobia among young adults, suggesting that emotional distress plays a central role in problematic smartphone dependency (Notara et al., 2023). The findings are also in line with Hosseini-Tabaqdehi, who found significant associations between loneliness, depressive symptoms, and nomophobia among students (Hosseini-Tabaqdehi, 2021). These converging findings suggest that adolescents who rely excessively on smartphones for communication may experience emotional vulnerability and psychological instability when deprived of digital connectedness.

The relationship between inability to communicate and depression may be explained through several psychological mechanisms. Smartphones have become essential tools for interpersonal interaction, emotional expression, and social validation among adolescents. Consequently, the inability to

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access communication channels may evoke feelings of isolation, helplessness, and emotional deprivation. Adolescents who are highly dependent on smartphones for maintaining peer relationships may perceive disconnection as a form of social exclusion, which can intensify negative emotional states and depressive symptoms. Furthermore, excessive dependence on virtual communication may gradually reduce the quality of face-to-face interactions and weaken emotional resilience, thereby increasing susceptibility to depression. These interpretations are supported by Liang, who emphasized the role of attachment anxiety in nomophobia and highlighted how emotionally insecure individuals develop stronger dependence on digital communication tools (Liang, 2024). Similarly, Chamani Arayi proposed that emotional dysregulation and experiential avoidance contribute significantly to nomophobia through the mediating role of depression (Chamani Arayi, 2023).

Another important finding of the study was that inability to access information significantly predicted depression. This result suggests that adolescents who experience anxiety or discomfort when they cannot immediately obtain information through their smartphones are more likely to report depressive symptoms. This finding aligns with the conceptualization of nomophobia as a multidimensional phenomenon involving cognitive dependence on digital access and online information (Wen et al., 2023). Modern adolescents increasingly use smartphones not only for communication but also for academic activities, entertainment, problem solving, and emotional reassurance. Consequently, restricted access to information may generate cognitive frustration and feelings of inefficacy, which may eventually contribute to depressive symptoms. These findings correspond with the results reported by Albikawi and Abuadas, who demonstrated that emotional regulation difficulties and reduced self-efficacy were associated with higher levels of nomophobia and anxiety (Albikawi & Abuadas, 2025). Adolescents who rely excessively on smartphones for obtaining information may gradually lose confidence in their independent coping abilities and become psychologically vulnerable in situations involving disconnection or uncertainty.

The results also indicated that giving up convenience significantly contributed to the prediction of depression. This finding suggests that adolescents who perceive smartphones as indispensable tools for comfort, convenience, and daily functioning may experience greater depressive symptoms when deprived of their devices. Smartphones offer immediate gratification, entertainment, distraction from stress, and emotional relief. Therefore, excessive reliance on such conveniences may limit the development of adaptive coping strategies and increase emotional dependency on technology. Over time, adolescents may become less capable of tolerating discomfort, boredom, or emotional distress without smartphone access, thereby increasing their vulnerability to depression. These findings are consistent with the broader literature emphasizing the role of emotional dysregulation and maladaptive coping in nomophobia (Chamani Arayi, 2023; Ensani Mehr et al., 2021). Moreover, Güveli and colleagues found that individuals with elevated nomophobia reported higher depressive symptom levels and loneliness, supporting the argument that technological dependency may intensify emotional distress (Güveli et al., 2024).

Another major finding of the present study was that inability to communicate significantly predicted anxiety among adolescents. This finding suggests that adolescents who become distressed when unable to communicate through smartphones tend to experience higher levels of anxiety. This result is highly consistent with previous studies reporting significant positive relationships between nomophobia and anxiety (Demircioğlu, 2024; Gnardellis et al., 2023; Sharma et al., 2019). Similarly, Kara and colleagues demonstrated that anxiety mediated the relationship between smartphone use duration and nomophobia, suggesting that emotionally vulnerable individuals may become increasingly dependent on digital communication for reassurance and emotional stability (Kara et al., 2021). The findings are also compatible with the results of Albikawi and Abuadas, who identified anxiety as a major psychological outcome associated with nomophobia among nursing students (Albikawi & Abuadas, 2025).

Several theoretical explanations may account for the relationship between inability to communicate and anxiety. Adolescents with elevated anxiety often seek constant reassurance, social approval, and immediate feedback from peers. Smartphones provide rapid access to communication and social interaction, thereby temporarily reducing feelings of uncertainty and insecurity. However, when adolescents lose access to these communication channels, they may experience heightened fear, worry, and emotional discomfort. In this context, smartphones may function as safety signals that help anxious individuals regulate their emotions. Dependence on such safety signals can reinforce anxiety over time because individuals become less capable of tolerating uncertainty and temporary social disconnection.

These interpretations are consistent with the findings of Liang, who highlighted the role of attachment anxiety in nomophobia (Liang, 2024). Individuals with insecure attachment patterns may perceive disconnection from smartphones as threatening because it disrupts their sense of emotional security and interpersonal accessibility.

The findings of the present study may also be interpreted within the framework of fear of missing out and social comparison processes. Adolescents are particularly sensitive to peer evaluation and social belonging. Smartphones and social media platforms continuously expose adolescents to peer activities, social interactions, and online feedback. Consequently, inability to communicate through smartphones may trigger concerns about social exclusion or missing important interactions. Wen and colleagues reported that nomophobia was strongly associated with fear of missing out and smartphone usage patterns (Wen et al., 2023). Similarly, Ayaz-Alkaya and Kulakçı-Altıntaş found that social media addiction mediated the relationship between nomophobia and social anxiety among adolescents (Ayaz-Alkaya & Kulakçı-Altıntaş, 2025). These findings suggest that adolescents may become psychologically dependent on digital communication because it provides a sense of belonging and social inclusion. When access to smartphones is interrupted, anxiety may increase due to fears of isolation and social disconnection.

The present findings also support the growing perspective that nomophobia should not be considered solely a technological issue but rather a multidimensional psychological phenomenon associated with broader emotional and cognitive vulnerabilities. Several previous studies have demonstrated relationships between nomophobia and emotional dysregulation, impulsivity, loneliness, anxiety sensitivity, and maladaptive personality characteristics (Awed & Hammad, 2022; Delavarpour et al., 2019; Ensani Mehr et al., 2021). The current findings further reinforce this perspective by showing that dimensions of nomophobia significantly contribute to depression and anxiety among adolescents. Smartphones may initially serve as adaptive tools for communication and emotional regulation; however, excessive dependency may eventually impair psychological autonomy and emotional resilience. Adolescents who become unable to regulate emotions independently may increasingly rely on smartphones as external coping mechanisms, thereby reinforcing emotional dependency and psychological distress.

Another noteworthy aspect of the findings involves the developmental characteristics of adolescence. Adolescence is a sensitive developmental period characterized by identity formation, emotional instability, and heightened interpersonal sensitivity. During this period, peer relationships and social belonging become central psychological needs. Therefore, smartphones may acquire exceptional emotional importance because they facilitate social interaction and identity expression. Excessive attachment to smartphones during adolescence may consequently increase vulnerability to emotional disorders, especially when adolescents experience disruption in communication or digital access. These interpretations align with the findings of Bulut and Sengul, who highlighted the relationship between nomophobia and social interaction anxiety among university students (Bulut & Sengul, 2024). They also correspond with the findings of Kara and colleagues, who emphasized the mediating role of loneliness and anxiety in nomophobia (Kara et al., 2021).

5. Conclusion

The findings of this study have important implications for mental health professionals, educators, and families. The significant relationships observed between nomophobia, depression, and anxiety indicate that excessive smartphone dependence should be considered a potential psychological risk factor among adolescents. School counselors and psychologists should pay greater attention to problematic smartphone use patterns and assess nomophobic symptoms during psychological evaluations. Preventive interventions focusing on emotional regulation, coping strategies, social skills development, and balanced technology use may help reduce the psychological consequences associated with nomophobia. Furthermore, parents and educators should be informed about the potential emotional risks associated with excessive smartphone dependence and encouraged to promote healthier digital habits among adolescents.

One limitation of the present study was the use of a correlational research design, which prevents the establishment of causal relationships between nomophobia, depression, and anxiety. Additionally, the study relied exclusively on self-report questionnaires, which may have increased the likelihood of response bias and social desirability effects. Another limitation involved the restriction of the sample to male adolescents in Sabzevar County, which may limit the generalizability of the findings to female adolescents or adolescents from different cultural and geographical contexts. Furthermore, variables such as family functioning, socioeconomic status, academic stress,

and social media use patterns were not controlled in the present study and may have influenced the observed relationships.

Future research is recommended to employ longitudinal and experimental designs in order to clarify the causal mechanisms underlying the relationship between nomophobia and psychological disorders. Researchers are also encouraged to investigate the role of moderating and mediating variables such as emotional intelligence, attachment styles, coping strategies, family relationships, and social support. Comparative studies involving different genders, age groups, and cultural contexts may provide a more comprehensive understanding of nomophobia and its psychological consequences. Moreover, future studies could examine the effectiveness of psychological interventions and educational programs designed to reduce nomophobia and improve emotional well-being among adolescents.

From a practical perspective, schools and mental health institutions should develop educational and preventive programs aimed at promoting healthy smartphone use and enhancing adolescents' psychological resilience. Workshops focusing on emotional regulation, stress management, interpersonal communication skills, and digital literacy may help adolescents establish balanced relationships with technology. Parents should also receive guidance regarding appropriate monitoring of smartphone use and the importance of encouraging face-to-face communication and recreational activities. In addition, school counselors and psychologists should identify adolescents with severe nomophobic symptoms and provide early psychological support to prevent the progression of depression and anxiety associated with problematic smartphone dependence.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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