

From Screens to Solitude: Investigating Nomophobia as a Driver of Loneliness and the Mediating Role of Social Support among Pakistani Students

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ARTICLE INFO	ABSTRACT
Article History: Received: January 22, 2026 Revised: February 26, 2026 Accepted: March 13, 2026 Available Online: March 27, 2026	Aim of the study: In Pakistan, a country with a rapidly growing smartphone user base, assessing nomophobia, or the fear of being without a mobile phone, is becoming increasingly important, particularly among university students. The study investigated the relationship between nomophobia, loneliness, and social support as a mediator among Pakistani students.
Keywords: Nomophobia, loneliness, social support, smartphone, Pakistani students	Method: Study design cross-sectional survey; utilizing convenience sampling approach a data of 466 university students was collected belonging to both the genders and different socio-economic background.
Corresponding Author: Ghulam Mustafa Email: mustafa.psych@gmail.com	Results: Out of 466 participants, 23% reported severe level of nomophobia and 59% with moderate level. Moderate positive correlation was found between nomophobia and loneliness, indicating that people with higher levels of nomophobia were lonelier. Furthermore, a slightly negative correlation was found between nomophobia and social support. Furthermore, a moderate negative correlation was found between loneliness and social support indicating that those who experienced higher levels of loneliness had less social support. Through linear regression nomophobia reported a significant predictive relationship with loneliness. Social support has significant predictive relationship with loneliness and with nomophobia. Hierarchical regression analysis results indicated that Nomophobia is the strongest and only meaningful predictor of loneliness, whereas demographic, socioeconomic, and technology-use variables had negligible effects.
	Conclusions: The research highlights the importance of facilitating meaningful face-to-face interactions to build effective social support systems and the potential negative effects of excessive smartphone usage on mental and emotional health, especially loneliness. These results advance the understanding of the complex interplay between nomophobia, loneliness, and social support, and provide useful insights for interventions to promote healthier smartphone usage and social well-being.



Introduction

Smartphones have revolutionized communication and information access in recent years, becoming an invaluable and pervasive tool that is firmly engrained in people's daily lives. An estimated 6.23 billion smartphone subscriptions worldwide, the number is projected to reach 7.7 billion by 2027 with data traffic anticipated to reach 40.64 gigabytes per active smartphone worldwide (Statista, 2022). Pakistan is not spared of the global surge in smartphone usage with approximately 194 million cellular subscribers in Pakistan (PTA, n.d.). Pakistan's mobile sector is growing in which there are about ninety million unique subscribers, comprising 47% of the populace (GSMA, n.d.). Widespread use of smartphones has raised concerns about potential problems and mental health issues like nomophobia (Limone & Toto, 2021).

Nomophobia is the fear of being without a mobile phone, impacting mental health globally, and has found to positively correlated with loneliness (Ozdemir et al., 2018; Yildirim & Correia, 2015). Nomophobia develops in stages: initiation (exposure), affirmation (social validation), need (dependence with anxiety). dependency (severe impairment with physical and social consequences) (Anshari et al., 2019). Individuals susceptible to nomophobia often display dependency, anxiety, and insecurity traits related to anxiety disorders manifesting in constant access to smartphone, distress when separated from devices and underlying fears like FOMO (King, 2013). Nomophobic individuals exhibit excessive smartphone use, constant checking, pre-sleep use, and carrying backup devices reflecting deep disconnection and compulsive need to stay digitally linked (Abraham et al., 2014). Nomophobia is fear of being away from smartphone, which causes anxiety about losing touch with others, feeling socially cut-off, and experiencing unease. Typical signs include increased anxiety, a strong habit of relying on devices, and a sense of panic when unable to use them, especially with predispositions to excessive phone use or social media addiction, are more likely to develop nomophobia (Ali et al., 2017, Ayar et al., 2018, Bragazzi et al., 2019, Han et al., 2017, Musa et al., 2017; Çobanoğlu et al., 2021).

Factors contributing to the development of nomophobia are individuals who have undergone earlier trauma or social issues like immigration, deprivation, isolation, loneliness, and social phobia (Pavithra & Madhukumar, 2015; Gezgin & Ümmet 2021; Gezgin et al., 2019).

Those experiencing nomophobia may employ their gadgets to shield themselves from socializing and to feel comfortable, safe, or successful when communicating via connectivityconnectovity through gadgets rather than face-to-face conversations. (Bragazzi & Del Puente, 2014; Gezgin et al., 2017). Smartphones can create a sense of protection and security by allowing people to control the tempo and substance of their interactions and avoid awkward or difficult social circumstances may result in a pattern of avoidance behavior and can generate a feeling of detachment from others (King et al., 2013; Shalom et al., 2015; Tan et al., 2013; Ayaz, 2025).

Nomophobia can impact a wide range of people, particularly youth, it was found to be increasing with age though some inverse relationship was also found (Bartwal & Nath, 2020; Yildiz Durak, 2018; Augner & Hacker, 2012, Al-Balhan et al., 2018). Gender significance was found with female reporting lower levels of nomophobia, but prevalence was greater though some studies reported otherwise (Darvishi, 2019; Tams et al., 2018; Adawi et al., 2018).

Students have found to be the prolific users of smartphones, this "sweet spot" market segment is characterized by higher educational status, being tech-savvy having financial independence (Arif et al. 2016; Poushter, 2016; Darvishi et al. 2019). Studies have found an inverse relationship between "nomophobia" scores, or levels of smartphone dependence, and academic performance

among students raising concerns about the decreasing ability to communicate face-to-face (Ahmad et al., 2019; Safdar et al., 2020; Aman et al., 2015; Bartwal & Nath, 2020).

Loneliness is a negative emotion when individuals perceive a discrepancy between their desired and achieved social relationships. This perceived disparity may be attributed to several social connection factors, including such as the number of social connections, the frequency of social interactions, or the quality of those relationships. Loneliness is the subjective experience of feeling distant from others or isolated which occur when people are unable to meet their demands for social connection, closeness, or support from others and put people at risk for physical and mental ailments (Jung, 2012; Orzeck & Rokach, 2004). The smart phones provide digital connections and the feeling anxious of being separated from phone, moreover, staying away from social interactions can lead to nomophobia through both emotional struggles like loneliness and difficulties in managing behavior through self-control and reduced wellbeing (Heng, 2023; He & Wang, 2025; Karimah. 2025; Khan, 2025).

Internet connection especially social media usage of younger people could be their way to deal with loneliness, but excess use can worsen the feeling and a disconnection from physical world (Morahan & Schumacher, 2003, Salimi, 2011, Mert & Özdemir, 2018, Yao & Zhong, 2014; Nowland et al., 2018; Yildiz Durak, 2018; Boursier, 2020). Online communication via smartphones may lead to social alienation and loneliness, especially for those students who are struggling with in-person connections (Hussien, 2022; Aldalalah, 2020). Low social support and poor interpersonal relationships, social comparison and peer pressure may raise the internet addiction incidence among adolescent (Wu et al., 2016). Offline social support acts as a protective factor against problematic internet use, while online social support may pose a risk, suggesting varied effects on internet use behaviors such as gaming addiction & mental health concerns (Mazzoni, 2016; Moge, 2020; Lai et al., 2023; Lu et al., 2023).

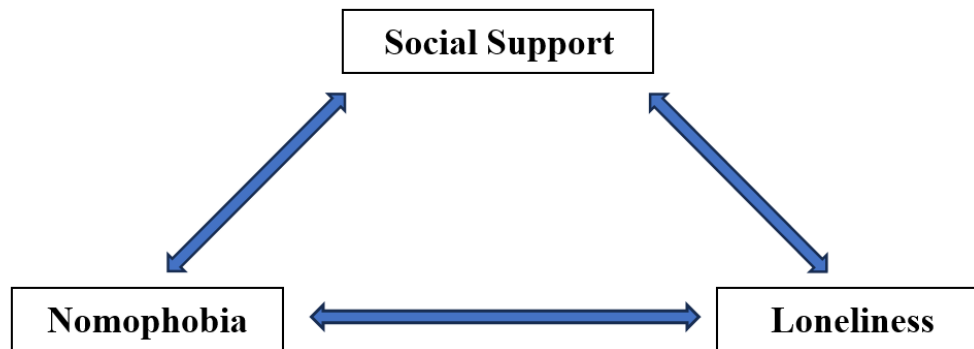
Social support encompasses assistance in the form of emotional nurturing, practical help, and informational guidance, fostering a sense of connection, and belonging. Social support especially feeling supported by friends largely reduce loneliness and even mitigating internet or online addiction (Cohen & Syme, 1985; Zhang, 2022; Cui & Chi, 2021; Tang, 2022). Young people view smartphones as extensions of themselves, relying on them for support, connection, and emotional validation and safe space (Han et al., 2017; Miller et al, 2021; Fowler & Noyes, 2015). On the contrary, nomophobia (fear of being without phone) reflect separation anxiety, depression and academic struggle (Rosales-Huamani et al., 2019).

Current study investigated nomophobia and loneliness among Pakistani students, with further exploring the role of social support as a mediator. Its goal is to look at the relationship and interactions between nomophobia, loneliness and social support by filling the knowledge vacuum and offer crucial information about how excessive smartphone use affects mental health among Pakistani students.

Theoretical Framework

Individuals who perceive a lack of social support, may turn to the internet as a substitute for real-world social interaction, leading to problematic internet use. This implies that social support can protect against internet addiction (Davis, 2001). Originally describing human bonds, attachment theory now extends to objects from clothing to smartphone with relationship forming a hierarchy where inanimate objects may also serve as figure of attachment (Keefer et al., 2012, Hazan & Shaver, 1994). While attachment was once considered as pathological (Hooley & Wilson-Murphy,

2012). These objects gain value during stress as seen with soldiers in combat situation (George, 2013). Ainsworth's four key attachment traits proximity maintenance, safe haven, secure base, and separation anxiety apply not only to human bonds but also to the smartphone attachment (Ainsworth, 1985).



The figure depicts the intricate relationships among nomophobia, loneliness, and social support. Nomophobia is linked to increased loneliness, with social support as a potential buffer. Nomophobia is also connected to an individual's social support level, suggesting its influence. Social support is associated with reduced loneliness, highlighting its role in mitigating the negative impact of nomophobia and alleviating loneliness.

Methodology

Research Design

The study adopted a quantitative cross-sectional survey design to examine the relationship between nomophobia, loneliness and social support.

Participants

Participants in the research were students from universities across Pakistan. A total of 466 participants were employed through convenient sampling, the data was collected physically; the questionnaire was self-administered. The inclusion criteria were: (1) individuals aged 18-28 years (2) all genders; (3) ownership of at least one smart phone. Individuals having a history of any psychological disorder, and chronic medical conditions were excluded.

Measures

1. Nomophobia Questionnaire (NMP-Q, Yildirim & Correia, 2015)

The NMP-Q was used to assess individuals' fear of being without smartphone or internet connection. It has 20 items, each of which is rated on a 7-point Likert scale from 1 ("strongly-disagree") to 7 ("strongly-agree"). Internal consistency ($r=14.9$) and construct validity ($r=14.7$) have been reported.

2. Revised UCLA Loneliness Scale (Version 3, Russell, 1996)

It is a 20-item scale to measure subjective emotions of loneliness and sentiments of social isolation. It uses 4-point Likert scale of "0=Never", "1=Rarely", "2=Sometimes", and "3=Often". Cronbach alpha reported from $\alpha=0.89 - 0.94$ and test-retest $r = 0.73$

3. Multidimensional Scale of Perceived Social Support (Zimet, 1988)

A self-report scale of social interaction that includes family and friends. The questionnaire is scored on a seven-point Likert scale where 1 being very-strongly-disagree to, 7 being very-strongly-agree. Cronbach's alpha reliability coefficient of total scale is $\alpha = 0.88$.

Result

Table 5.1

Demographic profiling of the participants

Demographic Variables			<i>f</i>	%
Gender	Male		225	48.3%
	Female		237	50.9%
	Don't want to mention		4	0.9%
Age	18-23 Years		371	79.6%
	24-28 Years		95	20.4%
	Married		40	8.6%
Marital Status	Engaged		16	3.4%
	Divorced		7	1.5%
	Single		403	86.5%
Socio Economic Status	Upper		101	21.7%
	Middle		323	69.3%
	Lower		42	9.0%
Education	Bachelor's		373	80.0%
	Master's		88	18.9%
	PhD.		5	1.1%
Nomophobia Severity Level	Severe		106	22.75%
	Moderate		274	58.80%
	Mild		86	18.45%

N=466

Table 5.2

Descriptive statistics and Alpha Reliability Coefficient of the measures

Variables	Items	α	M	SD	SK	K	Range	Min	Max
NMPQ	20	.902	82.39	21.58	.006	-.817	90	34	126
UCLA	20	.757	46.21	8.323	-.062	-.336	40	28	68
MSPSS	12	.893	57.21	15.17	-.616	-.449	65	14	79

Table showing Cronbach alpha Descriptive status and Alpha Reliability Coefficient, Univariate Normality of the Research for Nomophobia Questionnaire (NMPQ), Revised UCLA Loneliness Scale (UCLA), and Multi-dimensional Scale of Perceived Social Support Scale (MSPSS). α values are significant. All the measures reported significant reliability value on the current sample. (N=466)

Table 5.3
Correlation Analysis

	UCLA	MSPSS
NMPQ	.571	-.246
Sig.	.000*	.000*
UCLA		-.455
Sig.		.000*

* $p < 0.05$

Significant positive correlation found between nomophobia and loneliness ($r=.571$). A weak negative correlation between nomophobia and social support, with a correlation coefficient of $-.0246$ (Sig. value .000). The analysis revealed a moderate negative correlation between loneliness and social support, with a correlation coefficient of $-.455$ (Sig. value .000).

Table 5.4

Common Method Bias

Questionnaires	% of Variance
NMPQ	35.387%
UCLA Loneliness Scale	19.819%
MSPSS	46.477%

Note: NMP-Q: Nomophobia Questionnaire, UCLA: Revised UCLA Loneliness Scale, MSPSS: Multidimensional Scale of Perceived Social Support.

No single measure exceeded the threshold value of 50% variance (Podsakoff et al., 2003), which suggest that common method bias did not substantially influence the findings. The MSPSS showed the highest variance proportion (46.48%), though still below the critical threshold for CMB.

Table 5.5

Linear Regression Analysis of Nomophobia with Loneliness

	Loneliness						95% CI	
	R	R^2	ΔR^2	β	t	p	LL	UL
Nomophobia	.571	.326	.325	28.06	22.429	.000	25.60	30.52

Note: β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL= Upper limit

A simple linear regression was conducted to evaluate whether Nomophobia predicted loneliness. The model was statistically significant, accounting for 32.6% of the variance in loneliness ($R^2 = .326$, $\Delta R^2 = .325$). Nomophobia was a significant positive predictor indicating that higher scores on Nomophobia can be associated with higher scores on loneliness.

Table 5.6

Linear Regression Analysis of Social Support with Nomophobia

	<i>Nomophobia</i>							
	<i>R</i>	<i>R</i> ²	ΔR^2	β	<i>t</i>	<i>p</i>	95% CI	
							<i>LL</i>	<i>UL</i>
Social Support	.246	.061	.059	102.42	27.04	.00	94.98	109.86

Note: β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL= Upper limit

A simple linear regression was conducted to evaluate whether social support predicted nomophobia. The model was statistically significant, accounting for 6.1% of the variance in nomophobia ($R^2 = .061$, $\Delta R^2 = .059$). Social support was a significant negative predictor indicating that higher levels of social support were associated with lower levels of nomophobia.

Table 5.7

Linear Regression Analysis of Loneliness with Social Support

	<i>Social Support</i>							
	<i>R</i>	<i>R</i> ²	ΔR^2	β	<i>t</i>	<i>p</i>	95% CI	
							<i>LL</i>	<i>UL</i>
Loneliness	.455	.207	.205	60.488	45.073	.00	57.851	63.126

Note: β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared CI=Confidence Interval, LL=Lower limit, UL= Upper limit

A simple linear regression was conducted to evaluate whether loneliness predicted social support. The model was statistically significant, accounting for 20.7% of the variance in Social Support ($R^2 = .207$, Adjusted $R^2 = .205$). Loneliness was a significant negative predictor indicating that higher scores on loneliness were associated with lower scores on social support.

Table 5.8

Hierarchical Regression Analysis

		<i>Loneliness</i>			
Model	Predictors Added	<i>R</i>	<i>R</i> ²	ΔR^2	<i>Sig F Change</i>
1	Age, Gender, Marital Status	.097	.009	.003	.224
2	SES, Education	.101	.010	-.001	.842
3	Nomophobia	.331	.322	.322	< .001
4	No of Gadgets, time spent on usage	.580	.337	.325	1.29

Note: β =Standardized beta, R^2 =R-squared, ΔR^2 =Adjusted R-squared

A hierarchical regression analysis was conducted to examine the predictive power of demographic, socioeconomic, number of gadgets, and time spent on usage variables on loneliness (dependent variable).

The full model (Model 4) explained 33.7% of variance ($R^2 = .337$). However, only Nomophobia emerged as a statistically significant predictor ($\beta = .57$, $p < .001$), while all other variables (age, gender, SES, education, gadget ownership, and usage time) were non-significant ($p > .05$).

Discussion

The study found a strong positive correlation between nomophobia and loneliness ($r = 0.571$, $p < 0.001$), showing that the more someone depends on their smartphone, the lonelier they tend to feel. This matches earlier work by Ozdemir et al. (2019) and Cakir and Oguz (2017), which also found that smartphone addiction in teens is connected to more social isolation. The findings suggest that even though smartphones help people stay connected, using them too much can reduce face-to-face time, leading to more feelings of being alone (Purnama & Sununianti, 2020). This can create a cycle where loneliness leads to more smartphone use, which then makes loneliness worse.

Regression analysis showed that nomophobia is a strong predictor of loneliness, explaining 32% of the variation ($R^2 = 0.326$, $\beta = 0.571$, $p < 0.05$). This shows that nomophobia can greatly affect emotional health, and reducing smartphone dependence might be a useful way to help reduce loneliness.

Weak negative correlation was observed between nomophobia and perceived social support ($r = -0.246$, $p < 0.001$), showing that greater smartphone dependency is modestly associated with decreased perceived support. This is consistent with Siregar's (2022) study in Indonesian adolescents, where greater perceived social support related to less nomophobia. One reason is that people with robust offline support networks are less dependent on digital devices to satisfy emotional needs, while others without such networks might resort to smartphones as a substitute and thus enhance nomophobia.

Cakir & Oguz, (2017) found a positive correlation between nomophobia and specific types of social support, specifically online or digitally mediated support. This inconsistency implies separating the distinction between face-to-face and online social support in further research, as the interaction with nomophobia can differ according to the type of interaction.

In line with previous research (Elsayed et al., 2019; Czaja et al., 2021), an expected moderate inverse relationship between loneliness and perceived social support was found ($r = -0.455$, $p < 0.001$). Participants who were more lonely reported lower levels of perceived support, which implies that the experience of loneliness could prevent the identification or effective utilization of existing social networks. Regression analysis established that social support predicts loneliness ($R^2 = 0.061$, $\beta = -0.246$, $p < 0.05$), although the explained variance was small, and it indicates that although social support is a protective factor, other factors such as personality characteristics, mental status, and coping mechanisms also exert their influence. A hierarchical regression analysis was conducted to examine the predictive power of demographic, socioeconomic, number of gadgets, and time spent on usage variables on loneliness (dependent variable). The results indicate that Nomophobia is the strongest and only meaningful predictor of loneliness, whereas demographic, socioeconomic, and technology-use variables had negligible effects.

The results suggested that social support has significant predictive relationship with nomophobia ($R^2 = .207$, $F = 121.141$, $p < 0.05$). For loneliness 20% of variance is expected from social support with 80% of uncertainty. Furthermore, the observed social support beta value was 0.455, which means that a one-unit change in the independent loneliness variable increased nomophobia by 45% to the significance level of 0.00.

Hierarchical regression analysis revealed that of all demographics, socioeconomic, and technology-use variables considered, nomophobia was the most significant and the only significant predictor of loneliness. Conversely, variables like age, sex, number of devices, and amount of smartphone use per day played insignificantly. This discovery puts the spotlight on nomophobia as a target for intervention programs aimed at minimizing loneliness, particularly among high-risk groups.

Practically, the findings indicate that interventions should take a dual role: Decreasing redundant smartphone use via digital literacy, self-regulation practices, and encouraging balanced online-offline lives. Enhancing offline social relationships to increase perceived social support and reduce the emotional impact of nomophobia.

In total, the research demonstrates that there is an intricate interplay between nomophobia, loneliness, and social support. Not only does nomophobia directly augment loneliness, but it also indirectly reduces social support, which in turn further adds to loneliness. Whereas social support can be a buffer against loneliness, its ameliorative effect is modest in contrast to the effect of nomophobia. These findings emphasize the need to address both technological dependence and the quality of social relationships in the quest for enhanced psychological well-being.

Overall, the findings emphasize the negative impact of nomophobia on mental well-being, particularly loneliness, and the importance of social support in address the growing cause among youth. They add to our understanding of the complicated interplay between nomophobia, loneliness, and social support, and provided insights that can influence interventions and initiatives to promote healthier smartphone use and social well-being.

Implications

The research assessed nomophobia and loneliness prevalence; investigating social support as a moderator could unveil its role in mitigating nomophobia's impact on loneliness. Such insights are crucial for developing interventions to address nomophobia, promote healthy mobile phone use, and alleviate loneliness. The study's findings may guide the design of effective strategies, including preventive measures, education initiatives, and support programs tailored to the Pakistani population, raising awareness about the mental health risks associated with excessive mobile phone use.

Limitations and Recommendations

Reliance on quantitative data limits in-depth understanding, and richer insights. A follow up qualitative study could generate a deeper understanding of the constructs. In the target population. The study ignored the cultural influences, coping techniques, and smartphone usage patterns. Additionally, the cross-sectional design hinders establishing causal relationships; longitudinal research is needed to assess the long-term impact of nomophobia.

Conclusion

The research contributed to the understanding of nomophobia's impact on mental health issues, particularly loneliness, underscoring the crucial role of social support. It suggested the need for interventions promoting balanced smartphone usage and in-person connections among students to mitigate loneliness. The study highlighted the trade-off between virtual and face-to-face interactions, emphasizing the importance of fostering effective social support systems in the context of excessive smartphone use.

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