

Nomophobia and Social Interaction Anxiety Among Students

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Abstract

The present study examines the relationship between nomophobia (fear of being without a mobile phone) and social interaction anxiety in school students in higher education. With the rise in smartphone uses, young students are becoming more reliant on on mobile devices for social influences and emotional security. This study intended to examine whether higher levels of nomophobia predict greater social interaction anxiety. A sample of 128 students aged 18–25 years from colleges in Kanpur City, (Uttar Pradesh) were selected through purposeful sampling technique. The Nomophobia Questionnaire (Yildirim & Correia, 2015) and the Social Interaction Anxiety Scale (Mattick & Clarke, 1998) were administered. Data were analysed using mean, standard deviation, Pearson's r, regression and t-test. Findings revealed a significant positive correlation ($r = 0.71$, $p < 0.01$) between nomophobia and social interaction anxiety. The results indicate that students with higher mobile phone dependence incline to experience greater social anxiety, affecting their direct communication and social adjustment. These conclusions highlight the psychological suggestions of extreme smartphone use and suggest the need for awareness and intervention programs among young generation

Keywords: Nomophobia, Social Interaction Anxiety, Smartphone Dependence, Teenager students, Digital Behaviour

Introduction

The term Nomophobia or no mobile phone phobia is used to describe a psychological condition when people have a fear of being detached from mobile phone connectivity. The term **NOMOPHOBIA** is constructed on definitions described in the DSM-IV; it has been labelled as a “phobia for a particular/specific thing”. The start of smartphones has reformed the way individuals communicate and interact socially. While technology offers suitability, it has also led to new psychological concerns such as nomophobia, or the fear of being detached from one's mobile phone (King et al., 2013). This condition is increasingly prevalent among adolescents and young adults, particularly among female students, who use smartphones as a tool for social connectivity, information access, and emotional regulation (Kaur & Sharma, 2019). Gezgin, D. M., Cakir, O., & Yildirim, S. (2018) this study investigate the relationship between nomophobia and internet addiction. Using a random sampling method was on Turkey population. A positive correlation between nomophobia and internet addiction was found among the 292 students selected for the study

Simultaneously, social interaction anxiety—the discomfort or fear of engaging in face-to-face social situations—has become common in university settings (Mattick & Clarke, 1998). Researchers suggest that

increased smartphone dependency may reduce opportunities for real-world interaction, contributing to heightened social anxiety (Gezgin, 2017).

In India, smartphone penetration has increased exponentially, with over 750 million users reported in 2023 (TRAI, 2023). This surge in smartphone usage has changed communication patterns, with face-to-face interactions declining among youth (Sharma & Gupta, 2021). Research suggests that nomophobia not only affects psychological well-being but also reduces social connectedness, interpersonal warmth, and quality of conversations (Prasad et al., 2020). When individuals are preoccupied with their phones during face-to-face interactions, they engage in “phubbing” (phone snubbing), which disrupts communication flow (Roberts & David, 2016). Indian studies have also reported that students who score high on nomophobia scales exhibit lower social skills and higher social anxiety (Bhandari & Ahuja, 2022).

Kim, H., & Duval, E. R. (2023) this study examine gender difference in the relationship between social interaction anxiety and symptom symptoms of depression. When 165 adults were included in the analysis, the results indicated that the relationship between social interaction, anxiety and depressive symptoms may be influenced by gender identity.

In the Indian context, studies show that mobile over use among young women affects emotional well-being, interpersonal relationships, and academic performance (Dixit et al., 2020; Kumar, 2022). However, limited research focuses exclusively on the female student population. Therefore, this study seeks to investigate the relationship between nomophobia and social interaction anxiety among Indian girl students.

Objectives

1. To study the level of nomophobia among male and female students.
2. To measure the level of social interaction anxiety among male and female students.
3. To examine the relationship between nomophobia and social interaction anxiety.
4. To explore the psychological implications of smartphone dependence among female and male.

Hypotheses

1. There will be a significant positive correlation between nomophobia and social interaction anxiety among female and male students.
2. Higher levels of nomophobia will predict higher levels of social interaction anxiety among male and female students.

Methodology: the methodology section of the study describes the research design, sample, data analysis and result.

Research Design: The study followed a correlational research design to examine ,The relationship between nomophobia and anxiety in social interactions..

Sample:

The study sample comprised 128 students, aged 18–25 years, drawn from undergraduate and postgraduate programs in colleges affiliated with Chhatrapati Shahu Ji Maharaj University (CSJMU), Kanpur, (Uttar Pradesh) using a simple random sampling method.

Tools:

1. **Nomophobia Questionnaire (NMP-Q)** by *Yildirim and Correia (2015)* — The scale consists of 20 items rated on a 7-point Likert scale, covering four dimensions: inability to communicate, losing

connectedness, inability to access information, and loss of convenience. Reliability: $\alpha = 0.95$; Validity: content and construct validity established through factor analysis.

2. **Social Interaction Anxiety Scale (SIAS)** by *Mattick and Clarke (1998)* — The inventory includes 20 items rated on a 5-point Likert scale measuring anxiety in social interactions. Reliability: $\alpha = 0.88$; Validity: concurrent validity established with the Social Phobia Scale.

Procedure:

Participants were administered the tests in a classroom and informed consent was obtained. The questionnaires were administered individually. Responses were scored as per the manuals, and data were analysed.

Statistical Analysis:

Descriptive statistics (Mean & SD), Pearson’s correlation, and t-test were used to test the hypotheses at 0.05 and 0.01 significance levels.

Results- the study examined the relationship between nomophobia and social interaction anxiety among students .

Demographical data

| student | class | gender | age | mean 1 | mean 2 | t value |
|---------|-------|--------|-------|--------|--------|---------|
| 46 | 12 | male | 17-18 | 66.98 | 58.65 | 8.23 |
| 7 | 11 | male | 16-17 | 69.14 | 62 | 6.69 |
| 8 | 10 | male | 16-15 | 65 | 58.5 | 4.52 |
| 2 | 9 | male | 15-14 | 67.5 | 60 | 7.09 |
| 41 | 12 | female | 17-18 | 70.7 | 62.2 | 7.98 |
| 10 | 11 | female | 16-17 | 75 | 66.4 | 7.63 |
| 10 | 10 | female | 15-16 | 74.4 | 64.7 | 9.9 |
| 3 | 9 | female | 15-14 | 74 | 67.3 | 8.4 |

Male- with a T score of 8.23 of 46 students from class 12th , aged 17 to 18 years, had an average score of 66.98 for Nomophobia (mean1) and 58 for social interaction, anxiety (mean2). With a T score 6.69 of 7 students from class 11th , aged 16 to 17 years have a mean value of 69.14 for nomophobia and 62 for social interaction anxiety. With a T score of 6.69 of 8 students from class 10th , 16-15 years had an average social interaction anxiety score of 58.8 and an average nomophobia score of 67.5. With a T score 7.09 of 2 students from class 9th , aged 15-14 years, had an average score nomophobia of 67.5 and social interaction anxiety score of 60.

Female- with a T score of 7.09 of 41 students from class 12th , aged 17 to 18 years, had an average score of 70.7 for Nomophobia (mean1) and 62.2 for social interaction, anxiety (mean2). With a T score 7.98 of 10 students from class 11th , aged 16 to 17 years have a mean value of 75 for nomophobia and 66.4 for social interaction anxiety. With a T score of 9.9 of 10 students from class 10th , 16-15 years had an average social interaction anxiety score of 64.7 and an average nomophobia score of 74.4 With a T score 8.4 of 3

students from class 9th, aged 15-14 years, had an average score nomophobia of 74 and social interaction anxiety score of 67.3.

Table- This table represented data for male students ,

| Column1 | Column2 | Column3 | Column4 | Column5 |
|------------|---------|---------|---------|---------|
| variables | Mean | SD | t score | r value |
| Anxiety | 58.06 | 6.81 | 3.85 | 0.47 |
| Nomophobia | 65.9 | 6.84 | | |

The mean anxiety score among male students is 58.6 and the mean nomophobia score is 6.59. The standard deviation anxiety is 6.81, and for nomophobia is 6.84. The t- score for both variable 3.85. And the correlation coefficient between anxiety and nomophobia is 0.47, indicate a positive correlational

Table -This list characterized data for female students,

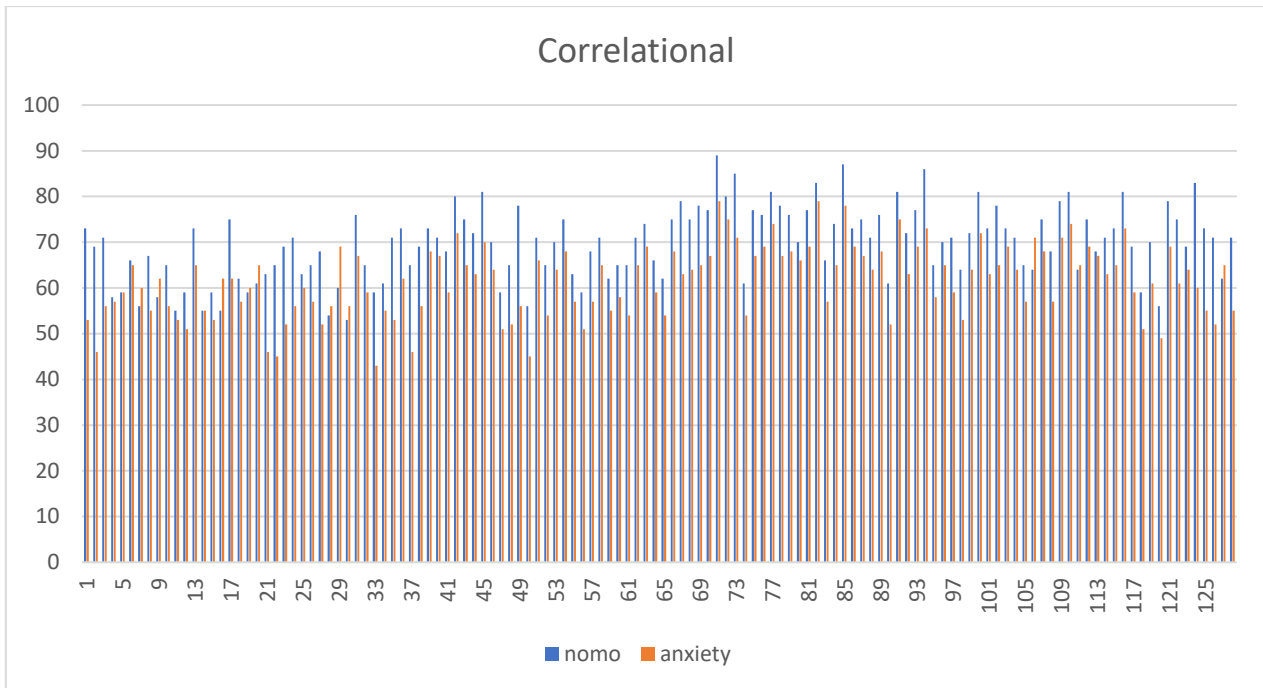
| Column1 | Column2 | Column3 | Column4 | Column5 |
|------------|---------|---------|---------|---------|
| variables | Mean | SD | t score | r value |
| Anxiety | 64.78 | 7.04 | 1.33 | 0.78 |
| Nomophobia | 73.27 | 7.12 | | |

female students have an average anxiety score for 64.78, and a mean nomophobia score of 73.27, the nomophobia standard deviation is 7.12 , anxiety standard deviation is 7.04. The correlation coefficient between anxiety and nomophobia, is 0.78 , showing up strong positive link and the t score for both variables is 1.33

Table- this series display data for all student,

| Column1 | Column2 | Column3 | Column4 | Column5 |
|------------|---------|---------|---------|---------|
| | Mean | Sd | t score | r value |
| anxiety | 61.46 | 7.71 | 1.44 | 0.71 |
| Nomophobia | 69.64 | 7.9 | | |

Student score , an average of 61.46 for anxiety , 69.64 for nomophobia , the nomophobia and social interaction anxiety standard deviation are 7.9 and 7.71, respectively. Anxiety and nomophobia , have a strong positively correlation value of 0.71 and t score of 1.44 for both variable.



Graph- that graph examine the correlation between each students Nomophobia and Social interaction anxiety. The analysis revealed a significant positive correlation ($r = 0.71, p < 0.01$) between nomophobia and social interaction anxiety. Students with higher dependence on mobile phones reported higher levels of social interaction anxiety in interpersonal settings.

Table- this table explains the Regression and ANOVA values between nomophobia and social interaction anxiety.

| <i>Regression Statistics</i> | | | | | |
|------------------------------|-------------|-------------|-------------|-------------|-----------------------|
| Multiple R | 0.711161709 | | | | |
| R Square | 0.505750976 | | | | |
| Adjusted R Square | 0.501828365 | | | | |
| Standard Error | 5.579827123 | | | | |
| Observations | 128 | | | | |
| <i>ANOVA</i> | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
| Regression | 1 | 4014.236377 | 4014.236377 | 128.9322184 | 5.17912E-21 |
| Residual | 126 | 3922.94331 | 31.13447072 | | |
| Total | 127 | 7937.179688 | | | |

F value = 128.93

Significance F = 5.18×10^{-21} ($p < .001$)

The ANOVA results indicate that the regression model is statistically highly significant. The obtained F-value of 128.93 suggests that the regression model explains significantly more variance in social interaction anxiety than expected.

The significant F-value ($p < 0.001$) confirms that nomophobia is a significant predictor of anxiety in social interactions among Indian students.

The regression model that predicts anxiety in social interactions based on nomophobia is statistically significant.

Variance Explained (SS values)

Regression SS = 4014.24

Total SS = 7937.18

This indicates that a large portion of total variance in social interaction anxiety is explained by nomophobia, supporting earlier R^2 findings (51%).

2. Regression Coefficient Interpretation

(a) Intercept (Constant)

Intercept = 24.85

$t = 6.25, p < .001$

This value represents the estimated level of social interaction anxiety when nomophobia is zero. Although a zero score for nomophobia is theoretical, the significant intercept indicates that students exhibit a baseline level of social interaction anxiety even without mobile phone-related anxiety, suggesting the influence of other psychosocial factors.

(b) Nomophobia (X Variable 1)

Unstandardized $\beta = 0.729$

$t = 11.35, p < .001$

95% CI = [0.60, 0.86]

This coefficient indicates that for every one-unit increase in nomophobia, there is an approximate 0.73-unit increase in social interaction anxiety. The very high t-value and very low p-value suggest that this effect is strong and highly reliable. The confidence interval does not include zero, which further confirms the strength of this relationship.

Psychological Interpretation:

The fear of being without a mobile phone significantly increases anxiety during social interactions among Indian male and female students.

Overall Findings (Integrated Interpretation):

ANOVA and regression analysis reveal that nomophobia is a strong, positive, and statistically significant predictor of social interaction anxiety among Indian male and female students. The regression model is highly significant ($F = 128.93, p < .001$), explaining a substantial portion of the variance in social interaction anxiety. The findings suggest that increased reliance on smartphones and the fear of disconnection contribute significantly to heightened social anxiety in face-to-face interactions.

5. Implications (For Discussion Section)

- Excessive smartphone dependence may act as a psychological safety behaviour, reducing real-life social exposure.
- Nomophobia may reinforce avoidance of direct social interaction, thereby increasing anxiety.
- Interventions focusing on digital well-being and social skills training may help reduce social interaction anxiety among students.

REGRESSION

1. Multiple R = 0.711

Meaning:

Multiple R is the correlation between the observed (actual) values and the predicted values of the dependent variable.

Interpretation:

A value of 0.711 indicates a strong positive relationship between the set of independent variables together and the dependent variable.

In simple words:

The predictors, when combined, are strongly related to the outcome variable.

2. R Square (R^2) = 0.506

Meaning:

R^2 shows the proportion of variance in the dependent variable explained by the independent variables.

Interpretation:

An R^2 of 0.506 means that 50.6% of the variance in the dependent variable is explained by the predictors included in the model.

Psychology research interpretation:

This is considered a moderate to high explanatory power, which is quite good in behavioural and psychological studies.

In simple words

About half of the changes in the outcome variable can be explained by your predictors.

3. Adjusted R Square = 0.502

Meaning:

- Adjusted R^2 corrects R^2 by taking into account:
- Number of predictors
- Sample size

Interpretation:

The value 0.502 is very close to R^2 (0.506), which indicates:

- The model is stable
- Predictors are meaningful
- There is no overfitting

In research language:

The regression model retains its explanatory power even after adjusting for the number of predictors.

4. Standard Error = 5.58

Meaning: This represents the average distance between the observed values and the regression line.

Interpretation: On average, the predicted scores differ from the actual scores by about ± 5.58 units.

In simple words: Smaller values indicate better prediction accuracy; 5.58 suggests reasonable prediction precision, depending on the scale of the dependent variable.

5. Observations = 128

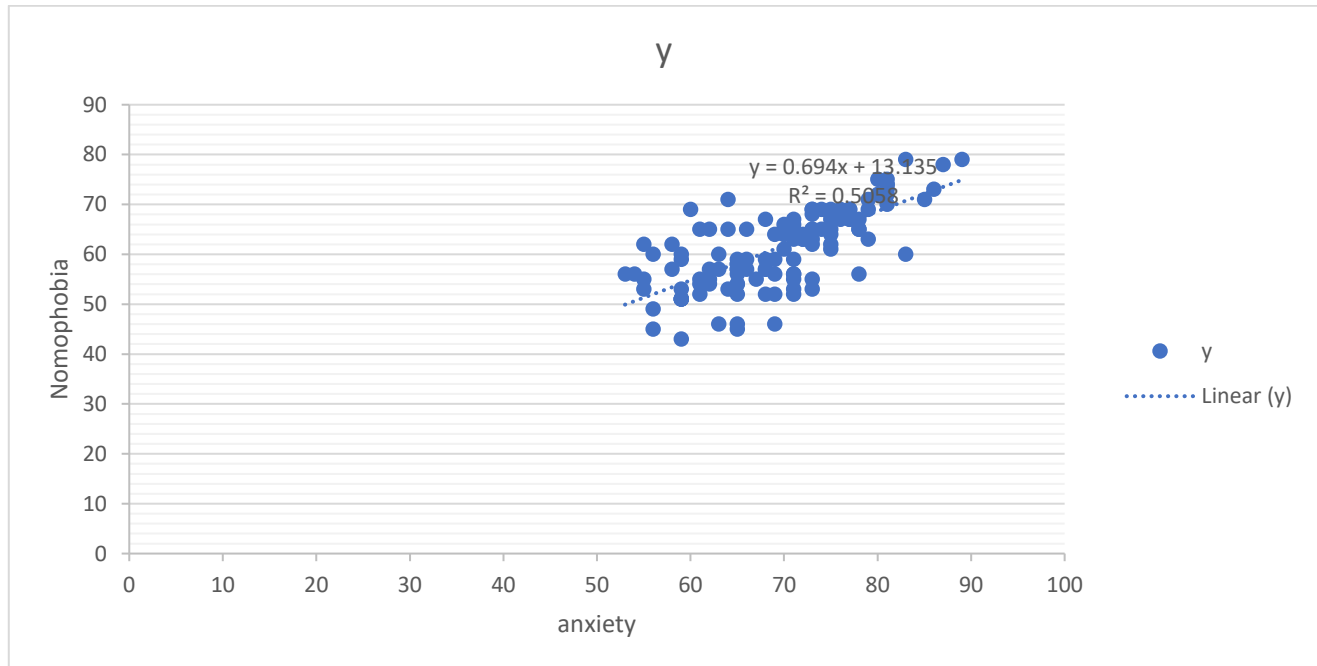
Meaning: The regression analysis is based on 128 participants/cases.

Interpretation: This is an adequate sample size for multiple regression and supports the reliability of the results.

General Interpretation (Ready-to-write format)

Multiple regression analysis revealed a strong relationship between the independent variables and the dependent variable (Multiple R = 0.71). The model explained approximately 50.6% of the variance in the dependent variable ($R^2 = 0.51$), indicating significant explanatory power. The adjusted R^2 value (0.50) confirms the stability and suitability of the model. The standard error of the estimate (5.58) suggests a reasonable level of predictive accuracy. This analysis was conducted with a sample of 128 participants.

Graph- this graph shows the regression value between nomophobia and social interaction anxiety.



Conclusion

this research investigates the relationship between nomophobia and social interaction and anxiety among student. The correlation value is 0.71, which indicates a strong positive correlation between nomophobia and social interaction anxiety. The regression value is 0.50 that explained nomophobia affects social interaction anxiety. Excessive dependence on smartphones adversely affects real-world communication and emotional health. Addressing this issue through educational counselling, awareness workshops, and promoting balanced digital habits could help enhance students' interpersonal confidence and psychological well-being.

Discussion

The present study supports the hypothesis that higher nomophobia levels are associated with increased social interaction anxiety among students. This finding aligns with earlier studies by *Gezgin (2017)* and *Bhattacharya & Awasthi (2020)*, who found that excessive smartphone use may foster social withdrawal and fear of in-person communication.

The second hypothesis which says higher levels of nomophobia will predict higher levels of social interaction anxiety among students. The significant correlation in the present research ($r = 0.71$) underlines that technology, while enhancing digital interaction, may reduce real-world social efficacy. Previous studies also support these findings. *Dixit et al. (2020)* and *Kaur & Sharma (2019)* observed that female

students are more emotionally attached to their phones, often using them to manage loneliness and social pressure, which may reinforce anxiety when separated from the device. This finding can be explained through Displacement Theory, which suggests that time spent on mobile devices displaces time spent in direct social communication (Kushlev et al.,

The results indicate a necessity for digital-wellness programs, mindfulness-based interventions, and social-skills training in educational settings to promote healthier mobile use and better face-to-face engagement.

Kaur, A., Ani, A., Sharma, A., & Kumari, V. (2021) this study investigate the prevalence of nomophobia. Among Punjab, university student and its relation sit with social interaction anxiety data from organ two hundred nine students shows a weak positive correlation between nomophobia and social interaction anxiety.

Significance of the Study

This research is significant as it provides empirical evidence from the Indian context, highlighting the psychological effects of technology on young students. Understanding this relationship can assist educators, counsellors, and policymakers in developing preventive strategies against smartphone-related anxiety and fostering digital wellness among university students.

Limitations

there are some limitations here.

- Other variables could be used in this research work that might be more beneficial.
- This study was conducted in a limited sample area. The researcher could be applied to more cities, which would make the findings more authentic.
- The researchers can be used for advanced level analysis.
- In this research , we used only two variable, but we observed that digitalization affected several variables.

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