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Exploring the prevalence of Nomophobia and its Socio-demographic correlates among University Students in North East India

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Abstract

In recent years the growing reliance on mobile phones for work, play, as well as communication has contributed to a spike in Nomophobia, the fear of being left behind without a phone. Nomophobia has been linked to various negative effects on mental and physical health, as well as academic performance. Therefore, understanding the prevalence of nomophobia among university graduate students and its associated factors is crucial in addressing the issue and developing effective interventions. The present study aimed to investigate the prevalence of nomophobia among university students in North East India and its correlation with selected socio-demographic elements, such as gender, age, residential location, type of families, educational level, type of stream, and semester of study. A descriptive survey research and convenience sampling technique was utilized to collect data from 627 graduates of the university using the standardized Nomophobia Questionnaire developed by Yildirim and Correia (2015). Descriptive and differential statistics were used for data analysis, and the results revealed that all the participating graduates experienced some level of nomophobia. Among them, the majority (66.7%) had a moderate level of nomophobia. There were no significant gender differences in the prevalence of nomophobia, with both male and female students exhibiting similar levels. However, significant differences were observed in the prevalence of nomophobia concerning factors like place of residence and education level. No significant differences were found among age, type of families, type of stream, and semester of study differences.

Key words: Anxiety, FOMO, Nomophobia, Socio-demographic, University students

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1.Introduction

Mobile phone usage has become an integral part of daily life for many individuals. With the increasing availability of smart phones, people can easily stay connected to others, access information, and perform various tasks on the go. While mobile phones have revolutionized the way we live and work, excessive usage can lead to negative effects on our health and well-being. The ability to connect people anywhere is one of the primary impacts of mobile phones on daily life. With the rise of social media and messaging apps, individuals can easily stay in touch with friends and family members to maintain relationships without location barriers and time constraints. Mobile phones with the internet at our fingertips revolutionized the way of accessing information. We can quickly look up information on various topics, from news to recipes to academic research. This has made it easier for people to stay informed and educated, regardless of their location. In addition to communication and information access, mobile phones have also become important tools for work and productivity. Many individuals rely on their mobile phones to stay connected with colleagues and to access important documents and information while on the go. This has made it easier for people to work remotely and to be more flexible in their schedules.

Nomophobia refers to the fear of being without a mobile phone or not being able to use one's mobile phone. It is a growing concern among young adults and university students who rely heavily on their mobile phones for communication, entertainment, and information. The prevalence of nomophobia among university students in North Eastern India is a topic of interest and concern for many researchers. The North Eastern region of India comprises eight states and is known for its diverse cultures, ethnicities, and languages. The use of mobile phones has become increasingly common among young adults in this region, making it important to examine the prevalence and impact of nomophobia. Several studies have been conducted on nomophobia in various parts of the world, but the prevalence of nomophobia among university students in North Eastern India remains underexplored. Understanding the extent of nomophobia in this region can help develop interventions and strategies to address this growing problem.

2.Literature Review

Several studies have been conducted to investigate the prevalence and factors associated with nomophobia, which refers to the fear of being without a mobile phone or not having network coverage. A few of these studies are listed below:

Vaishali et al. (2021) found that the majority of their samples had moderate levels of nomophobia and that age and education level were significantly associated with the level of knowledge of the samples. Setia and Tiwari (2021) found that nomophobia was related to FOMO, especially among young people who seek external validation and recognition from others through social media. Kubrusly et al. (2021) found that all students had a moderate and severe level of nomophobia. Essel et al. (2021) found a high prevalence of nomophobia among university students in Ghana, with no significant variations between gender and Smartphone use. Guin et al. (2020) found that a majority of undergraduate students had moderate nomophobia. Qutishat et al. (2020) found a high prevalence of nomophobia among students. Sood and Butt (2020) found that 43% of Indians over 18 years of age were addicted to nomophobia, with females being more addicted than males. Bajaj et al. (2020) found that almost all collegegoing students had nomophobia, with two-thirds of them having a severe level of nomophobia. Mengi et al. (2020) found that the prevalence of nomophobia was higher among female study subjects than male subjects. Sureka et al. (2020) showed that nomophobia was significantly associated with stress and depression.

Apak and Yaman (2019) highlighted the need for preventive studies on factors affecting nomophobia. Khilnani et al. (2019) found no significant difference in nomophobia scores with respect to gender, age, marital status, and profession. Sethia et al. (2018) found that a majority of participants started using smart phones before the age of 18 and that most had a moderate level of nomophobia. Shankar et al. (2018) found that a high percentage of Indian females above 18 years old suffered from nomophobia compared to males. Harish and Bharath (2018) found no statistically significant difference in nomophobia between genders. Kateb (2017) found high levels of nomophobia among university students, especially females. Ozdemir et al. (2017) found that the degree of nomophobia tended to increase from the first year to the fourth year of university. Madhusudan et al. (2017) found no statistically significant association between

nomophobia and sex, admission quota, and residence. Overall, these studies provide insights into the prevalence and factors associated with nomophobia among different populations.

Despite the growing body of literature on nomophobia, there is still a lack of research focusing on its prevalence and socio-demographic correlates among university students in North East India. While studies have been conducted in other regions, the cultural and social context of North East India could potentially result in different patterns of nomophobia prevalence and its association with socio-demographic factors. Therefore, there is a significant research gap in understanding the prevalence and socio-demographic correlates of nomophobia among university students in this region. This study aims to address this gap by providing a comprehensive understanding of the prevalence of nomophobia and its association with socio-demographic factors among university students in North East India.

3. Objectives of the study

- To explore the prevalence of nomophobia levels among university students in North East India
- To examine if there are gender, age, place of residence, type of families, education level, type of stream and semester of study related differences in the prevalence of nomophobia among university students in North East India.

4. Hypotheses of the study

- There is no statistically significant prevalence of nomophobia among university students in North East India.
- There are no gender differences in the prevalence of nomophobia among university students, with male and female students exhibiting nomophobia at similar rates.
- There are no age-related differences in the prevalence of nomophobia among university students, with younger and older student's exhibit nomophobia at similar rates.
- There are no place of residence related differences in the prevalence of nomophobia among university students, with students residing from urban and rural areas exhibit nomophobia at similar rates.

- There are no type of families related differences in the prevalence of nomophobia among university students, with students from joint and nuclear families exhibit nomophobia at similar rates.
- There are no education level related differences in the prevalence of nomophobia among university students, with undergraduate and postgraduate student's exhibit nomophobia at similar rates.
- There are no stream related differences in the prevalence of nomophobia among university students, with students studying in arts and science streams exhibit nomophobia at similar rates.
- There are no semesters of study related differences in the prevalence of nomophobia among university students across different semesters.

5. Research design of the study

For the current study researcher utilized a descriptive survey research and convenience sampling technique to efficiently gather data from a substantial number of participants within a relatively brief time frame.

To assess the levels of nomophobia the "Nomophobia Questionnaire" created by Yildirim and Correia (2015) comprises four dimensions with 20 items which are rated on a 7-point likert scale was distributed to 750 students enrolled in courses at Tezpur University. After performing data cleaning and removing incomplete responses, the study ultimately included a sample of 627 graduates with an average age of 22 years old. Table 1 provides a comprehensive overview of the demographic characteristics of the participants included in the sample.

The total score obtained from the NMP-Q provides an overall index of an individual's level of nomophobia ranging from 20 to 140. This tool has high reliability with a Cronbach's alpha value of 0.93. Individual's higher scores on the questionnaire items indicate severity levels of nomophobia. In order to analyse the data, the nomophobia scores are calculated for each graduate. The structured demographic performa included a total of items such as gender, age differences, residential location, type of families, education level, stream and semester of study.

Data Analysis and Hypotheses Testing

The data collected were analyzed using the SPSS 25 and interpreted based on the respondent's prevalence levels of nomophobia and its socio demographics: gender, age difference, place of residence, type of families, education level, stream and semester of study. Various statistical methods, such as counts, percentages, means, standard deviations, t-tests, and f-tests, were employed to analyze the data. The findings from the analysis are presented and discussed below:

Table 1: Demographic Profile of the Respondents

Variable	Subgroup	Total (%)	Variable	Subgroup	Total (%)
Sex	Male	46.9	Residential Location	Urban	56.1
	Female	53.1		Rural	43.9
Educational Level	U.G	47.7	Stream	Arts	40
	P.G	52.3		Science	60
Age	>18&<21	80.2	Semester of study	Second	77
	>21&<25	78.2		Fourth	77.9
	>25&<28	75.6		Sixth	82.5
Type of Families	Joint	19.8		Eighth	82.4
	Nuclear	80.2			

Of the 627 participants in the study, 46.9% were male and 53.1% were female. In terms of their background, 56.1% of the sample came from urban areas and 43.9% came from rural areas. Additionally, 40% of the respondents pursued arts courses, while 60% pursued science courses. With regard to educational level, 47.7% of respondents were pursuing undergraduate programs, while 52.3% were enrolled in postgraduate programs. The majority of participants (80.2%) were aged between 18 and 21, followed by 78.2% between the ages of 21 and 25, and 75.6% between 25 and 28 years old. In terms of family setup, 19.8% came from joint families, while the remaining 80.2% came from nuclear families. In terms of semester of study, 77.07% were in their second semester, 77.99% were pursuing their fourth semester, 82.53% were in their sixth semester, and 82.44% were in their eighth semester. This distribution of demographic profile indicates that the study predominantly involved younger participants.

H1: There is no statistically significant prevalence of nomophobia among university students in North East India.

Table 2: Distribution of percentage wise respondent's levels of nomophobia severity

Variable	Subgroup	Levels of Nomophobia severity (%)			Total%
		Severe	Moderate	Mild	
Sex	Male	11	30.3	7.7	49
	Female	7.7	39.3	8.5	55.5
Residential Location	Urban	10.2	38.8	9.6	58.7
	Rural	8.5	30.8	6.5	45.9
Age	>18&<21	4.17	12.3	4.17	20.7
	>21&<25	13.3	54.2	11.7	79.7
	>25&<28	1.17	3.17	0.3	4.8
Educational Level	U.G	8.3	32.2	9.3	49.8
	P.G	10.3	37.5	6.8	54.7
Semester of study	Second	6.17	18.3	4	28.5
	Fourth	10.7	38.2	8.5	57.3
	Sixth	1.3	6.7	2.3	10.3
	Eighth	0.5	6.5	1.3	8.3
Stream of study	Arts	7	27.5	7.3	41.8
	Science	11.7	42.2	8.8	62.7
Type of Families	Joint	4	13	3.7	20.7
	Nuclear	14.7	56.7	12.5	83.8
Overall Nomophobia Prevalence among the samples		17.9	66.7	15.5	100

The Table 2 provides a comprehensive breakdown of respondents' prevalence levels of nomophobia severity across various demographic and contextual subgroups.

- Firstly, when considering gender, among males, 11% experienced severe nomophobia, 30.3% experienced moderate levels, and 7.7% experienced mild levels. Among females, 7.7% experienced severe nomophobia, 39.3% experienced moderate levels, and 8.5% experienced mild levels. It reveals that both males and females experience nomophobia, with varying degrees of severity. Interestingly, females exhibit slightly higher levels of moderate and mild nomophobia compared to males.
- Moving on to residential location, the data suggests that in urban areas, 10.2% experienced severe nomophobia, 38.8% experienced moderate levels, and 9.6% experienced mild levels. In rural areas, 8.5% experienced severe nomophobia, 30.8%

experienced moderate levels, and 6.5% experienced mild levels. Individuals residing in urban areas tend to experience slightly higher levels of nomophobia across all severity categories compared to their rural counterparts.

- When examining age groups, for respondents aged between 18 and 21, 4.17% experienced severe nomophobia, 12.3% experienced moderate levels, and 4.17% experienced mild levels. For those aged between 21 and 25, 13.3% experienced severe nomophobia, 54.2% experienced moderate levels, and 11.7% experienced mild levels. For those aged between 25 and 28, 1.17% experienced severe nomophobia, 3.17% experienced moderate levels, and 0.3% experienced mild levels. It appears that younger respondents, particularly those aged between 21 and 25, report higher levels of severe and moderate nomophobia compared to other age brackets.
- Furthermore, educational level plays a role, among undergraduate (U.G) students, 8.3% experienced severe nomophobia, 32.2% experienced moderate levels, and 9.3% experienced mild levels. Among postgraduate (P.G) students, 10.3% experienced severe nomophobia, 37.5% experienced moderate levels, and 6.8% experienced mild levels. It reveals postgraduate students exhibit slightly higher levels of severe nomophobia compared to undergraduates.
- Regarding semester of study, in the second semester, 6.17% experienced severe nomophobia, 18.3% experienced moderate levels, and 4% experienced mild levels. In the fourth semester, 10.7% experienced severe nomophobia, 38.2% experienced moderate levels, and 8.5% experienced mild levels. In the sixth semester, 1.3% experienced severe nomophobia, 6.7% experienced moderate levels, and 2.3% experienced mild levels. In the eighth semester, 0.5% experienced severe nomophobia, 6.5% experienced moderate levels, and 1.3% experienced mild levels. It shows there's a notable increase in nomophobia severity among students in second and fourth semesters.
- Regarding stream of the study, among Arts students, 7% experienced severe nomophobia, 27.5% experienced moderate levels, and 7.3% experienced mild levels. Among Science students, 11.7% experienced severe nomophobia, 42.2% experienced moderate levels, and 8.8% experienced mild levels. Additionally, there's a contrast between arts and science students, with science students showing higher levels of severe nomophobia than arts stream students.

- Type of families also plays a role, in joint families, 4% experienced severe nomophobia, 13% experienced moderate levels, and 3.7% experienced mild levels. In nuclear families, 14.7% experienced severe nomophobia, 56.7% experienced moderate levels, and 12.5% experienced mild levels. It reveals with individuals from nuclear families reporting higher levels of all nomophobia severity categories compared to those from joint families.
- The prevalence of nomophobia among the sampled population is significant, as evidenced by the data. According to the NMP-Q scoring guidelines established by Yildirim & Correia (2015), the sample of 627 individuals had an average nomophobia score of 78.54, with a standard deviation of 20.94, indicating a moderate level of nomophobia overall. Among these graduates, 17.9% (n = 112) displayed severe levels of nomophobia, while the majority, comprising 66.7% (n = 418), exhibited moderate levels. Additionally, 15.5% (n = 97) of the respondents showed mild levels of nomophobia. This distribution underscores the widespread nature of nomophobia in contemporary society, affecting a substantial portion of the population, albeit with varying degrees of severity.

H2: There are no gender related differences in the prevalence of nomophobia among university students, with male and female students exhibiting nomophobia at similar rates.

Table 3: Comparison of nomophobia levels based on university studentsgender

Demographic Variables		N	Mean	S. D.	t-value	Level of Significance
Gender	Male	294	77.19	22.33	1.514 (df=625)	0.013 (p>0.05)
	Female	333	79.73	19.60		

Table 3 indicates that a comparison of nomophobia levels between male and a female graduate in the university using an independent-samples t-test. The findings indicated a statistically significant difference between the two groups, with $t(625) = 1.514$, $p = 0.013$. On average, female graduates ($M = 79.73$, $SD = 19.60$) displayed higher levels of nomophobia compared to male graduates ($M = 77.19$, $SD = 22.33$) who were studying in the university.

H3: There are no age-related differences in the prevalence of nomophobia among university students, with younger and older student's exhibit nomophobia at similar rates.

Table 4: Comparison of nomophobia levels according to graduate's age

Demographic Variables	N	Mean	S. D.	F-value	Level of Significance
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Age	>18&<21	124	80.28	20.34	0.734 (df=625)	0.481 (p>0.05)
	>21&<25	475	78.25	21.28		
	>25&<28	28	75.68	17.66		

According to Table 4, an F-test was conducted to compare the levels of nomophobia among three different age groups of students studying in the university. The findings indicated there was no statistically significant age-related difference in the level of nomophobia across the different age groups of graduates, $F(2,624) = 0.734$, $p = 0.481$ ($p > 0.05$).

H4: There are no place of residence related differences in the prevalence of nomophobia among university students, with students residing from urban and rural areas exhibit nomophobia at similar rates.

Table 5: Comparison of nomophobia levels according to graduate's place of residence

Demographic Variables		N	Mean	S. D.	t-value	Level of Significance
Place of residence	Urban	352	79.69	21.31	1.557 (df=625)	0.012 (p>0.05)
	Rural	275	77.07	20.41		

Table 5 indicates that a comparison of nomophobia levels between urban and a rural graduate in the university using an independent-samples t-test. The findings indicated a statistically significant difference between the two groups, with $t(625) = 1.557$, $p = 0.012$. On average, urban graduates ($M = 79.69$, $SD = 21.31$) displayed higher levels of nomophobia compared to rural graduates ($M = 77.07$, $SD = 20.41$) who were studying in the university.

H5: There are no type of families related differences in the prevalence of nomophobia among university students, with students from joint and nuclear families exhibit nomophobia at similar rates.

Table 6: Comparison of nomophobia levels according to graduate's type of families

Demographic Variables		N	Mean	S. D.	t-value	Level of Significance
Type of Families	Joint	124	79.06	21.303	0.311 (df=625)	0.756 (p>0.05)
	Nuclear	503	78.41	20.879		

Table 6 indicates that a comparison of nomophobia levels between graduates from joint family and graduates from nuclear family studying in the university using an independent-samples t-test. The findings indicated a statistically no significant difference between the two groups, with $t(625) = 0.311$, $p = 0.756$. On average, graduates from joint family ($M = 79.06$, $SD = 21.30$) displayed higher levels of nomophobia compared to graduates from nuclear family ($M = 78.41$, $SD = 20.41$) who were studying in the university.

H6: There are no education level related differences in the prevalence of nomophobia among university students, with undergraduate and postgraduate student's exhibit nomophobia at similar rates.

Table 7: Comparison of nomophobia levels according to graduate's education level

Demographic Variables		N	Mean	S. D.	t-value	Level of Significance
Levels of Education	Under graduate	299	81.00	20.93	2.818 (df=625)	0.005 ($p > 0.05$)
	Post graduate	328	76.30	20.74		

Table 7 indicates that a comparison of nomophobia levels between undergraduate and a postgraduate studying in the university using an independent-samples t-test. The findings indicated a statistically significant difference between the two groups, with $t(625) = 1.557$, $p = 0.012$. On average, undergraduates ($M = 81$ $SD = 20.93$) displayed higher levels of nomophobia compared to postgraduates ($M = 76.3007$, $SD = 20.74$) who were studying in the university.

H7: The type of stream is not significantly related to nomophobia, and students studying in arts and science streams exhibit nomophobia at similar rates.

Table 8: comparison of nomophobia levels according to graduate's Stream of study

Demographic Variables		N	Mean	S. D.	t-value	Level of Significance
Type of stream	Arts	251	80.02	21.640	1.446 (df=625)	2.467 ($p > 0.05$)
	Science	376	77.55	20.442		

Table 8 indicates that a comparison of nomophobia levels between arts stream graduates and a science stream graduate studying in the university using an independent-samples t-test. The

findings indicated there is statistically no significant difference between the two groups, with $t(625) = 1.446$, $p = 2.46$. On average, arts stream graduates ($M = 80.02$ $SD = 21.64$) displayed higher levels of nomophobia compared to ($M = 77.55$, $SD = 20.44$) who were studying in the university.

H8: There are no semester of study related differences in the prevalence of nomophobia among university students across different semesters.

Table 9: Comparison of nomophobia levels according to graduate's semester of study

Demographic Variables		N	Mean	S. D.	F-value	Level of Significance
Semester of study	Second	171	77.07	21.753	1.695 (df=625)	0.167 ($p > 0.05$)
	Fourth	344	77.99	20.624		
	Sixth	62	82.53	23.748		
	Eighth	50	82.44	15.472		

According to Table 9, an F-test was conducted to compare the levels of nomophobia among graduates' streams of study. The findings indicated there was no statistically significant semester related difference in the prevalence level of nomophobia, $F(2,624) = 1.695$, $p = 0.167$.

Discussion of the study

Among the 627 graduates surveyed, 17.9% reported severe levels of nomophobia, 66.7% reported moderate levels, and 15.5% reported mild levels. The findings of the study revealed that 100% of the participated graduates experienced some level of nomophobia. According to Harish and Bharath (2018), the prevalence of nomophobia was 77% in developed countries and Ozdemir et al., (2018) reported prevalence was 99% in developing countries. Qusitabet et al. (2020) in their study found a prevalence of nomophobia was 99.33% among university students.

In the present study, all respondents indicated experiencing mild, moderate, or severe levels of nomophobia. These findings are consistent with previous research by Essel et al. (2021), Qutishat et al. (2020), Adawi et al. (2019), Deryakulu and Ursavaş (2019), Al-Balhan et al. (2018). The findings indicate that a significant portion of the reported graduates, comprising most of the 66.7%, experienced moderate levels of nomophobia. This observation aligns with

Sethia et al. (2018), who similarly noted that a majority of university students exhibited a moderate level of nomophobia.

In this study, a significant difference was found between male and female graduates in their levels of nomophobia. On average, female graduates displayed higher levels of nomophobia than male graduates, which is consistent with previous studies (Cirak and Islim, 2020; Galhardo et al., 2020; Aktay & Kuscü, 2019; Gutierrez-Puertas et al, 2019; Yasan & Yildirim, 2018; Prasad et al. 2017). The prevalence of nomophobia showed a significant difference between urban and rural graduates in this study. On average, urban graduates exhibited higher levels of nomophobia compared to rural graduates. A significant difference was found between undergraduate and postgraduate students in this study. On average, undergraduates displayed higher levels of nomophobia compared to postgraduates studying in the university. No significant age-related differences were found in the prevalence level of nomophobia in this study, which is consistent with previous studies (Yildirim et al., 2015; Cain & Malcom, 2019; Apak & Yaman, 2019; Gezgin et al., 2018). There was no significant difference found between graduates belonging to joint and nuclear families in this study. No significant difference was found between graduates from arts and science streams in this study. There was no statistically significant semester-related difference found in the prevalence level of nomophobia in this study.

Conclusion

The current study explored the prevalence of nomophobia and its socio-demographic correlates among university students in North East India. In short, the findings indicated that the majority graduates (66.7%) exhibiting a moderate level of nomophobia, with 17.9% exhibiting severe levels and 15.5% exhibiting mild levels. There was no significant age-related difference in the prevalence level of nomophobia. However, statistically significant differences were found between male and female graduates in their nomophobia levels, with female graduates displaying higher levels of nomophobia compared to male graduates. Additionally, statistically significant differences were found between urban and rural graduates, with urban graduates displaying higher levels of nomophobia. There was also a statistically significant difference between undergraduates and postgraduates, with undergraduates displaying higher levels of nomophobia. On the other hand, there was no statistically significant difference between the graduates belonging to joint and nuclear families or between arts and science stream graduates. The semester of study was also found to have no statistically significant effect on the prevalence level

of nomophobia. Overall, these findings suggest that nomophobia is a prevalent issue among university students in North East India, particularly among female, urban, and undergraduate students. It is essential to raise awareness about nomophobia and its impact on mental health among university students and provide support services to help them cope with the adverse effects of excessive mobile phone use. Future research is needed to explore the relationship between nomophobia and academic performance and to identify effective interventions to manage nomophobia among university students.

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Conflict of Interest

None

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