

A Multicenter Study Examined the Association between Fear Levels and Nursing Students' Personality Traits

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Abstract

The aim of this multi-center study was to look into how personality traits such as nomophobia, which is on the rise among young people due to the increased use of technology, relate to fear levels in nursing students. The study included 424 prospective nurses in total, with an average age of 25 and a female participation rate of 84.7%. According to the findings, most nursing students showed mild panic when confronted with injections. Data on the individuals' levels of fear and personality qualities were gathered using the Nomophobia Questionnaire and the Ten-Item Personality Inventory (TIPI), respectively. The research revealed a substantial relationship between nomophobia and particular personality characteristics, shedding light on the causes of this fear. These results may be helpful in creating focused interventions to assist nursing students in overcoming their anxieties and enhancing their well-being.

Keywords: nursing, traits, nomophobia, fear levels, students

1. INTRODUCTION

Today's medicine and technology allow healthcare organizations to use a variety of devices and equipment to support clinical practice in all care settings, especially in intensive care. The number of issues caused by smartphone usage, however, has grown dramatically in recent years. Consequently, there has been a rise in research on the issue, with findings describing the phenomena as addicting, antisocial, and potentially harmful (Ferrara, Carelli, & Ruta, 2023). The widespread nature of smartphone use has led many to compare it to drug or alcohol dependency. Due to the nature of modern culture, adolescence is the most vulnerable time to experience signs of nomophobia, including Internet and video game addiction and their associated psychological and emotional consequences. Young people nowadays are used to using digital media for many kinds of creative and social activities. The cognitive, behavioural, and physiological changes experienced by certain young individuals who prefer digital interaction over physical touch. Sedentary behaviour, eating disorders, sleep disturbances, depression, irritability, aggression, and poor self-esteem are just some of the issues that may arise from this kind of repeated abuse. The vast majority of registered nurses across the world serve as preceptors of nursing students as part of their normal workday responsibilities. This is an essential instructional position. There have been a lot of studies that have asked nurses about their experiences interacting with nursing students when they were doing clinical. Staff nurses who took part in teacher-led clinical practice have been found in previous research to see teaching as an extra responsibility, a source of stress, and even conflict at work (Rozani & Kagan, 2023). Many studies have looked for evidence linking workplace conditions to mental health issues such as stress, anxiety, and depression. The role of job and social factors in the development of depression and anxiety in men and women in the workforce. According to their research, depressive and mental symptoms were linked to job stress, limited decision-making authority, and poor effort-reward alignment. It is well-known that nurses and other healthcare workers at hospitals have demanding workloads. There is a lack of clarity among nurses regarding the characteristics that determine life satisfaction. In the medical field, nurses perform an extremely delicate function. Furthermore, life happiness is a multifaceted concept that is influenced

by a wide range of factors, including societal factors like social support. Therefore, it is important for any country to determine what factors lead to happiness. Now days, social networking sites, e-mail, texting, phone calls, digital gaming, online shopping, and other online activities are all possible on smartphones (Gutierrez-Puertas, Marquez-Hernandez, & Sao, 2019) (Copaja, Aragon, & Taype, 2022). The smartphone's popularity and usage have increased dramatically because of the pervasive nature of information and communication technology in modern society. In 2022, 95.3% of Indians owned mobile phones, according to statistics from the Indian Statistical Institute in the year 2021. The prevalence of smartphone usage is said to be greater among young adults. The widespread and regular usage of cellphones has led to a fair number of issues. There are studies that highlight the positive aspects of cellphones, but there are also studies that reflect the negative impacts, such as smartphone addiction, antisocial conduct, and damage to one's personal and professional life (Molu, Icel, & Aydogan, 2023) (Lee, Yun, & Kim, 2023). Due to the addictive nature of cell phones, a new disorder known as nomophobia has evolved (Adawi, Zerbetto, & Re, 2019) (Palsetia, Rao, & Tiwari, 2018) (Hamari & Koivisto, 2015) (Apak & Yaman, 2019). The symptoms of nomophobia (short for "no mobile phobia") include discomfort, worry, anxiousness, and distress when one does not have access to one's smartphone (Rodriguez, Moreno, & Lopez, 2020) (Olivencia, Ferri, & Del, 2018). It's a modern and digital plague that everyone knows about by now. Nomophobics exhibit symptoms including excessive smartphone use; carrying multiple devices and chargers at all times; experiencing anxiety and nervousness when deprived of smartphone use; avoiding as much as possible situations and places where smartphone use is prohibited (such as driving, public transportation, and theatre); and not turning off their phone at any time of the day or night (Dasgupta, Bhattacharjee, & Dasgupta, 2017) (Ramnarain, 2020). The anxiety of being alone in a public place, known as "nomophobia," is widespread, especially among young people. It has been linked to depression, a lack of confidence, isolation, and a preoccupation with one's phone. Depression, anxiety, rage, violence, social isolation, and sleep disturbances are only some of the issues that might arise when people stop interacting with one another (Bae, 2017). Among college students, females have been found to suffer from a higher rate of nomophobia than their male counterparts, according to studies. The fear of strangers was found to be extremely high among nursing students in one study, while it was found to be low among medical and nursing students in India by 78.7 percent. Negative effects of phobia on nursing students' learning and performance were discovered. However, it is crucial to raise nurses' consciousness, as it is their responsibility to safeguard and enhance public health and to offer patients individualized, comprehensive care. Nomophobia threatens patient safety by distracting healthcare providers, leading to lower-quality care.

Nomophobia is influenced by several demographic and socioemotional factors, including age, gender, ethnicity, marital status, and the presence or absence of comorbid mental illnesses. Stress is the most important component, and it may have a variety of distinct psychological consequences on an individual's sense of internal stability. Every individual should determine the causes of their stress and learn to control those sources to minimize its negative effects. Acquiring new knowledge is almost often a stressful and difficult process for the learner. Learning about careers in the healthcare industry, such as nursing, makes this point very clear. The clinical performance required of nurses is held to a higher standard and subject to greater pressure than that of nurses in other health professions. In addition to the difficulties associated with theoretical education, nursing students are also subjected to a variety of clinical education challenges that are far more intensive. The clinical nursing education courses are considered by nursing students to be the most demanding study time because of the impact that their performance in clinical environments has on the overall health of patients (Kecan & Pallos, 2021) (Salvarani, Ardenghi, & Rampoldi, 2020). These pressures were made worse by a lack of appropriate professional knowledge and clinical abilities, the gap between theoretical and practical learning, the witnessing of patients' deaths and suffering, and a lack of communication skills in dealing with patients and medical personnel. In recent years, owing to the significance of nursing performance and the negative consequences that stress may have in a clinical setting, education experts have given greater consideration to nursing students' reports of feeling stressed (Kamali, Mousavi, & Saed, 2023). There is a large gender gap in the responses to academic pressure among medical students, with males exhibiting more neurosis and females displaying more extroversion. On the other hand, there is no research that has been done in India to investigate the connection between personality features and academic stress in nursing students. Adjustment styles are a major factor in determining how nursing students experience and respond to the pressures of their academic lives as well as the

strategies they use to deal with those experiences. Adjustment techniques used by students are another factor that determines academic stress and its influence on students' mental and physical health, as well as their overall academic and clinical performance.

Personality qualities are also proven to affect how people use their smartphones. Nomophobia is well-documented among learners in nursing, but the link between this anxiety and other personality traits has received less attention. Different groups' job performance has been studied about factors such as smartphone addiction, digitalization, low self-esteem, obesity, anxiety, or the fear of missing out on changes in one's social environment. However, while there is a study looking at how different personality traits relate to nurses' levels of claustrophobia, there isn't one looking at how different personality traits relate to the levels of claustrophobia experienced by nursing students, who are at a higher risk of developing the disorder due to their adolescent characteristics. It was also determined to conduct this research because there may be regional and cultural differences. People's perceptions and assessments of their workplaces are heavily influenced by their personalities. Personality qualities of employees have an impact on the workplace, while employees' personalities are in turn influenced by their working conditions. Personality not only plays a pivotal role in the development of stress but also modifies its impact. People's susceptibility to the damaging effects of stress depends greatly on their particular make-up (Kiziloglu & Karabulut, 2023). Many theories about personality characteristics and the connection between those characteristics and an individual's actions have been discussed up to this point. The five great personality qualities theory is one of these ideas, and it is one of the most well-known and extensively utilized theories about personality characteristics. This theory proposes that there are five major components that make up a person's personality. These components are neuroticism, extraversion, openness to experience, agreeability, and conscientiousness. People that exhibit neuroticism have a reduced stress tolerance, less emotional stability, and are very susceptible to any and all stressful events. They are people who are concerned, nervous, agitated, bashful, and rushed, and they often behave differently when placed in stressful environments. People who have the extraversion personality characteristic tend to exhibit behaviors such as being energetic, brave, inquisitive, and gregarious. They also tend to seek out new experiences. Extroverts have been shown to report higher levels of happiness and satisfaction with their jobs and the environments in which they work. There is a correlation between having a vivid imagination and being creative in response to one's environment and having the personality attribute of being open to new experiences. They also have the ability to generate new ideas, are interested in hearing what other people have to say, and are suited for careers that need creativity and entrepreneurialism as well as those that involve a great deal of change and progression. Theorizing, architectural design, and the visual arts are all fields in which individuals who possess this personality attribute succeed.

According to the findings of a variety of different kinds of studies, it is possible to make the assertion that an individual's unique personality characteristics are connected to both the factors that cause them to experience stress as well as the stress that they themselves feel. In other words, one's personality qualities may either underlie, prolong, or change the influence that stresses have on one's performance under such stressors. Recognizing the link between personality characteristics and stress resources in clinical contexts is important for future educational planning because of the significance of the clinical function that nurses are responsible for as their main responsibility within the health care system. As a result, the purpose of this research was to determine whether or not there is a link between personality qualities and the resources that nursing students have available to them while they are under stress in a clinical environment.

1.1 Clinical Stress Levels in Nursing Students

Students' clinical competencies increase through clinical education (Admi et al., 2018), making clinical education a crucial aspect of the nursing curriculum. Clinical training allows students to network with other professionals and put their academic knowledge into practice (Ahmed et al 2019). Clinical practice is an integral part of nursing education, but it additionally brings significant complexity and difficulty. Clinical teaching has been shown to cause moderate to high-stress levels for nursing students, according to the study. Some research has also shown that stress levels among nursing students are significantly greater than among other types of undergraduates. Students can benefit from a moderate amount of stress, as long as it is manageable. Further,

students are believed to be more dedicated to their studies and future goals when exposed to low to moderate levels of stress. But it's common knowledge that students can't handle a lot of stress. Students learning, physical, mental, and social health, as well as their clinical and academic performance, can all suffer when they are under constant, high stress. Further, Stress of mild to moderate levels is typical during clinical training and often hard to handle, it can help students succeed academically if they develop healthy coping mechanisms. Clinical education can be stressful for students for many reasons, including unpredictability, lack of professional expertise or abilities, Fear of making mistakes, fear of injuring people, facing death, being subjected to interpersonal issues, facing disasters, performance anxiety caused by academic or clinical staff's expectations, a heavy workload, trouble speaking with patients and clinical staff, and the gap between theory and performance are anything that may lead to stress.

1.2 Nursing Students' Personality Traits

This study found that nursing students experience high levels of stress, yet their studies have typically focused only on intellectual sources of tension. Students employ a variety of coping mechanisms in an effort to manage and lessen their stress (Klainin-Yobas et al., 2014). The relationship between coping methods, stressful life experiences, and personality traits in nursing students has not been studied in the previous decade, and the few that have been conducted have reached contradictory. Assessing students' predispositions and potential associations between stress and personality traits is one way in which educators may better prepare nurses for the workforce in light of the demands of the nursing profession. This two-wave longitudinal study aims to use the stress-coping transactional model to investigate how nursing students' dominant coping styles, stressful life events, personality features, and development through time are all intertwined.

The literature has paucity regarding on the efficacy of interventions aimed at increasing mental health care utilization among college students in Egypt, despite the high prevalence of psychological distress and barriers to seeking mental health care reported by Baklola et al (2023), is one potential research gap that can be identified from the table. According to Bonacaro et al (2022), there is a need for more research into the variables that affect nursing students' attitudes toward providing care for patients living with HIV/AIDS. Examining how personal experiences, societal norms, and educational and training programs have influenced nursing students' attitudes and beliefs of HIV/AIDS care is one possible aspect of this. Personality traits have the potential to have an impact on the mental well-being of nursing intern students. Within the population of nursing intern students, neuroticism was shown to be connected with a lower psychological status. It is also important not to ignore the fact that the vast majority of nursing intern students still had symptoms of depression and anxiety. In a therapeutic context, smartphone distraction may have serious implications, thus it's important to address the problem of smartphone addiction. It is also important to implement regulations for smartphone usage in healthcare settings and assess their effect on nursing faculty and students. Nursing students still need more time to adapt to the clinical environment, and recognizing their personality traits can improve their compatibility in these stressful atmospheres.

3. METHODS

Participants' average age was 25 years. Overwhelmingly (84.7%), women took part in this study. The majority of the participants (52.6%) were freshmen, and the vast majority (92.8%!) still lived at home with their parents. **Table 2** shows a comparison of nursing students' (n = 424) levels of nomophobia to the subdimensions of the Beck Anxiety Inventory. **Table 2** shows the Nomophobia Questionnaire's Total and Subdimension Scores as well as the Personality Inventory's Subdimension Scores (n = 424).

3.1 Research Type

This was a multicenter, descriptive, and cross Sectional Study.

3.2 Inclusion

India provided the study's target population, which consisted of students (n=818) enrolled in nursing programs at Science and Technology in India. There was no selection of the samples that were taken. Everyone who

participated in the research was given an explanation of the study's goal, and mobile apps were used to gather data using forms. Forms were sent to all of the kids, and those students who fulfilled the inclusion requirements were recruited. It was assessed whether or not the students who checked the box indicating that they were willing to participate in the research (marking yes on the permission form) were considered to fulfill the inclusion criteria. The ability to read and comprehend Indian was one of the requirements for participation, along with being at least 18 years old, as well as not having any physical disabilities. The research contained data from each and every student who provided their informed permission to take part in the study.

3.3 Exclusion criteria

The exclusion criterion was determined as incomplete filling in the questionnaires and unwillingness to cooperate in filling out the questionnaires.

3.4 Sample

The study's participants were comprised of students ($n = 818$) from the faculties of nursing at Science and Technology University in India. A total of 424 students utilized part in the study, representing 51.8% of the total sample size.

3.5 Data Collection

The information was collected through a Nomophobia Questionnaire and a Personality Inventory (TIPI) filled out online.

3.6 Research procedure and Questionnaire

A 20-item questionnaire that was designed by (Yildirim & Correia, 2015), which is intended to measure the degree of nomophobia that people have, is employed for this purpose. On a scale that ranges from one to seven points, items are scored. The questionnaire is broken up into four different subdimensions, which are a lack of access to information (questions 1–4), a lack of communication (items 10–15), a loss of connectivity (items 16–20), and a sacrifice of convenience (items 5–9). The overall score on the questionnaire might range anywhere between 20 and 140 points. The least possible score is 20, and the most possible score is 140. No nomophobia is indicated by a score within the range of 0 to 20; however, mild, moderate, and severe degrees of nomophobia are indicated, respectively, by scores within the ranges of 21 to 59, 60 to 99, and 100 to 140, respectively.

3.7 Data Analysis

The SPSS program, version 21, was used to do the analysis of the collected data. Cronbach's Alpha was employed to examine the reliability of the scales, and percentages, mean standard deviation and other statistical measures were used to analyze the results in relation to the sociodemographic features of the people. When verifying the normality hypothesis, both the skewness and the kurtosis values were analyzed and considered. It was considered that the requirements for normal distribution were satisfied since both the skewness and the kurtosis values were within the range of 1.96 to -1.96. In order to provide answers to the study questions, both an analysis of variance (ANOVA) and a Pearson correlation analysis were carried out. The effect size of the independent t-test was determined using Cohen's d as the basis for the calculation. The effect size levels were connected to the difference between the two means, and according to Cohen's d , they were classed as small (<0.4), moderate ($0.41 - 0.70$), and big (> 0.70). The threshold for statistical significance was established at a value lower than 0.05.

4. RESULT

The results revealed that 34.9 percent of the students suffered from mild nomophobia, 53.6 percent from moderate nomophobia, or 17.3 percent from severe nomophobia. **Table 2** shows that No student's total score on the "nomophobia" test was in the appropriate range of 0 to 20. Students' average ratings on the NMP-Q's subscales were 19.74 ± 7.03 , 19.06 ± 8.40 , 26.22 ± 8.26 , and 15.13 ± 7.93 for being allowed to get data, giving up comfort, and not being able to communicate to other people, and feeling disconnected, respectively. Nomad

phobia was assessed with a mean score of 75.16 ± 25.53 . The mean scores for the TIPI sub-dimensions were 8.97 ± 3.29 , 7.83 ± 1.33 , 8.66 ± 2.82 , 9.66 ± 3.65 , and 8.34 ± 2.04 for receptivity to new situations, harmony, emotional stability, as well as responsibility, and sociability Table 2. Table 3 and correspond figure 1 displays pertinent participant demographic data. Females made up 91.1% of the total, and the vast majority (96.7%!) of the intern nursing students in this study were also single. There was a fairly even distribution of different levels of education among the intern nursing students: 40.3% were juniors, 30.4% were seniors, and 29.9% were graduate students.

Result Table 1: Comparison of Nursing Students' Nomophobia Levels and Personality in Ventry Subdimensions (N = 424)

Nomophobia Level	No. (%)
No ($0 \leq \text{NMP-Q score} \leq 20$)	0
Mild ($21 \leq \text{NMP-Q score} < 60$)	132 (31.1)
Moderate ($60 \leq \text{NMP-Q score} < 100$)	223 (53.6)
Severe ($100 \leq \text{NMP-Q score} \leq 140$)	69 (17.3)

Table 2: Total and Subdimension Scores of the Nomophobia Questionnaire and the Subdimension Scores of Personality Inventory (n = 424)

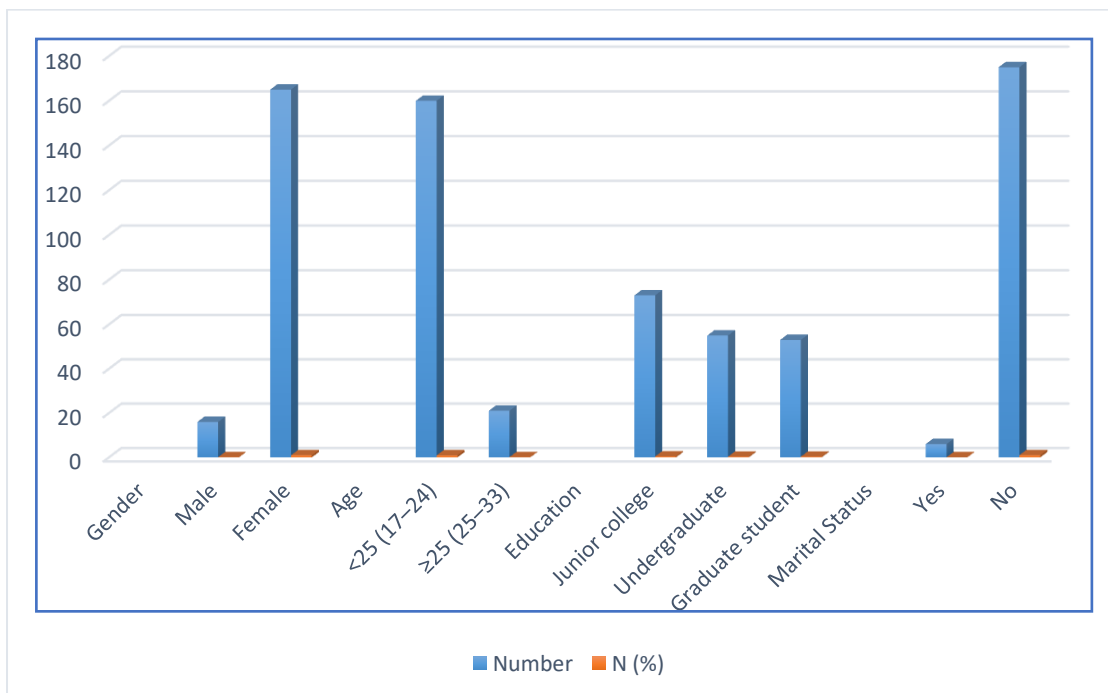
Variables	Mean \pm Standard Deviation	Median	Min	Max
Nomophobia scale subdimension and total scores				
Not being able to have access to information	19.74 ± 7.03	17.00	4.00	28.00
Giving up convenience	19.06 ± 8.40	18.00	5.00	35.00
Not being able to communicate	26.22 ± 8.26	26.00	6.00	42.00
Loss of connectedness	15.13 ± 7.93	12.00	5.00	35.00
Total nomophobia	75.16 ± 25.53	72.00	21.00	140.00
Sub-dimensions				
Openness to experience	8.97 ± 3.29	10.00	2.00	14.00
Agreeableness	7.83 ± 1.33	9.00	2.00	14.00
Emotional stability	8.66 ± 2.82	8.00	2.00	14.00
Conscientiousness	9.66 ± 3.65	11.00	2.00	14.00
Extroversion	8.34 ± 2.04	9.00	2.00	14.00

Result Table 3: Demographic Data of the Respondents (N=181)

Variables	Number	N (%)
Gender		

Male	16	8.8%
Female	165	91.1%
Age		
<25 (17–24)	160	88.4%
≥25 (25–33)	21	11.6%
Education		
Junior college	73	40.3%
Undergraduate	55	30.4%
Graduate student	53	29.3%
Marital Status		
Yes	6	3.3%
No	175	96.7%

Figure 1: Demographic Data of the Respondents (N=181)



CONCLUSION

This study concluded that most students experienced only mild to moderate degrees of nomophobia and that Students' levels of nomophobia were associated with the reasons they used a mobile phone and factors unique to each student. We may conclude that nursing students continue to experience high levels of stress associated with the clinical setting. More than any other factor, the hospital environment has a profound emotional impact on nursing students. Trainers should pay more attention to students with neurotic personalities because of the significance of clinical performance in nursing. The negative impacts of the clinical environment's stress resources on nursing students' performance may be mitigated by enhancing the simulation training approach in the preclinical phase of nursing education. Additionally, it is more important than ever that nursing students prepare themselves mentally for the clinical environment. The majority of students in this study exhibited a moderate level of nomophobia, and this level was correlated with the students' reasons for using mobile phone and their personality traits. Additional study is encouraged to complement smartphone usage regulations in medical centers, assess the way these rules affect students and workers in educational institutions, and customize efforts to prevent and treat nomophobia to the distinctive traits of each patient.

Future Research

Future studies may focus more specifically on the efficiency of various intervention strategies, such as peer support programs, counseling services, and mental health education and awareness campaigns, in overcoming these obstacles and enhancing the mental health of Indian undergraduates. Additionally, aspects like smartphone, internet, and social media usage, which is one of the reasons for using cellphones, should be investigated in future studies.

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Author's Contribution

Author (1) created the work design, wrote the original draft, collected the data, and wrote, edited, and revised the final draft. The author collected the data, made the formal analysis, selected the sample, and conducted the interviews. The author (2) & (3) collected the data, interpreted the data, and edited the final manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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