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PERSONALITY AND SELF ESTEEM IN RELATION WITH NOMOPHOBIA AMONG UNIVERSITY STUDENTS

Dr. Nitesh Kumar Jha

Assistant Professor,
Department of Psychology, Bharti Mandan College, Rahika, Madhubani
(A Constituent Unit of LNMU, Darbhanga)

Priya

(Student, M.Sc. Clinical Psychology).
Department of Clinical Psychology, Faculty of Behavioural Sciences, SGT University,
Gurugram (Delhi NCR)

ABSTRACT

Background: Personality and self-esteem play a vital role in determining person's thoughts and behaviour. Both of these factors greatly influence health and wellbeing of the individual. Individuals with nomophobia suffer from a psychological condition where they fear losing their connection to their mobile phones. Research suggests that this fear is so intense that it doesn't allow people to turn off their phone even when they don't use it. The purpose of the current study was to investigate the relationship between university students' nomophobia and their personalities and self-esteem. **Methods:** Data was collected from 160 university students from which there were 97 females and 63 males ranging from 18 to 25 years of age which were selected through convenient sampling technique. The study utilized three tools including Nomophobia Questionnaire (Yildrim and Correia, 2015), NEO Five-Factor Inventory (Costa and McCrea, 1992) and Rosenberg Self Esteem Scale (Rosenberg, 1965). **Results:** Results obtained from applying Pearson's correlation revealed that only the neuroticism personality factor has significant correlation with nomophobia. This association was also evident in the results of regression analysis. Other factor, which was found to have significant correlation with nomophobia is self-esteem. Results of regression analysis revealed self-esteem as a significant predictor of nomophobia. **Implication:** This study provides valuable insights to counselors, psychologists, and other professional working with individuals experiencing nomophobia. Recognizing the personality traits which can predict nomophobia can help professionals identifying potential risk factors and tailor interventions accordingly. Professionals can address self-esteem issues by fostering self-acceptance, promoting self-worth, and encouraging healthy coping mechanisms to reduce dependence on mobile devices.

Key words: Nomophobia, Mobile phone use, Personality and Self-Esteem

INTRODUCTION

Numerous studies have demonstrated that severe nomophobia affects roughly 21% of adults overall, with university students appearing to be the group most affected (Humod et al., 2021). College students may use their phones for up to nine hours a day, making them "probably the greatest non-drug addiction of the 21st century," according to Shambare, Rugimbana, and Zhowa (2012). This can lead to a dependency on phones as a modern life necessity and serve as an example of "a paradox of technology" that can be both liberating and enslaving.

The term "nomophobia" refers to a psychological disorder in which a person fears being cut off from mobile phone connectivity. According to Bhattacharya et al. (2019), the fear can be so powerful that people never put down their phones, even at night or during times when they cannot use their devices. Nomophobia, according to King et al. (2013), is the unfounded fear and anxiety a person feels when they are unable to use or access their mobile phone for communication. Research carried out on the students reveals that students having nomophobia may encounter problems such as low motivation, focusing problems, decrease in academic success and anxiety when they cannot reach their mobile phones (Tuco et al., 2023). According to Bragazzi and Del Puente (2014), nomophobia is a disorder that affects people in the digital age. It is characterized by discomfort, anxiety, irritability, and distress when a person is unable to use a computer or cell phone.

Big Five Factor Theory of Personality (McCrae and Costa, 1987) consider personality traits to be fundamental inclinations. It takes into account how culture shapes an individual's abilities, habits, likes, and values. Five personality factors—neuroticism, extraversion, openness, agreeableness, and conscientiousness—are discussed in the model. Emotional instability, irritability, and depression are traits of the neurotic personality. Extraversion is concerned with emotional expressiveness, talkativeness, aggressiveness, and excitability. Openness consists of personality traits like creativity and intuition. Agreeableness encompasses a range of features that promote social harmony and competence. Conscientiousness reflects the self-reflection, effective impulse control and goal-directed behavior.

Self-esteem is the feeling of value that results from consistently meeting expectations for activities that you find personally meaningful (James, 1890). James considered self-esteem as an important research area in the discipline of psychology which is viewed as an individual's entire assessment of his/her ideas and feelings about oneself, including whether they are positive or negative (Rosenberg, 1965). The level of self-esteem in an individual varies from low to high. Individual with very high self-esteem possess sense of superiority, are frequently haughty, indulgent and entitled. A healthy sense of self-worth is demonstrated by an equitable and realistic self-perception. People with a strong sense of self-worth are conscious of their advantages and disadvantages. They establish realistic objectives for both themselves and other individuals. People with low self-esteem frequently point the finger at others while downplaying their own failings. Low self-esteem is a symptom of feeling smaller than other people. People with low self-esteem give other people's opinions greater weight than their own. Since they tend to focus more on their perceived weaknesses than their strengths, they might find it difficult to receive praise.

There is a clear and significant connection between nomophobia and anxiety, dependency on social media, and internet use reported by Ayar et al. (2018). Various studies have investigated the association of personality and nomophobia. A general finding reported by Ibrahim et al. (2020) that nomophobia level decreases as personality get stronger. Another study carried out on nursing students revealed that degrees of nomophobia are associated with students' smartphone usage intentions and personality factors (Molu et al., 2023). More specifically the findings of a study carried out by Okoye et al. (2018) revealed that personality factors such as openness to experience, extraversion and neuroticism predict nomophobia significantly. According to research carried out by Masip et al. (2023), dysfunctional obsessions play a part in the emergence of nomophobia and are strongly connected to personality factors like extraversion. Argumosa-Villar et al. (2017) reported that extraversion is a significant predictor of nomophobia. At the same time, consciousness is a negative and important nomophobia predictor. Amiri and Taghinejad (2022) demonstrated

that the students' nomophobia may be adversely and significantly predicted by conscientiousness and self-esteem. The neuroticism of the students was a significant and favorable predictor of their nomophobia.

Through the above-mentioned studies, it is clear that various personality factors including neuroticism, extraversion, openness to experience and conscientiousness are the significant predicts of nomophobia.

Vagkya et al., (2023) investigates the association between self-esteem and nomophobia, and revealed a strong correlation between nomophobia and low self-esteem. Nomophobia was shown to be negatively associated with with self-happiness and self-esteem and positively correlated with loneliness (Chethana et al., 2020). Higher nomophobia was linked to lower self-esteem, according to (Edwards et al., 2022), and higher self-esteem may act as a buffer for people who experience less social anxiety, preventing them from engaging in excessive smartphone use. These studies showed that low self-esteem were associated with higher nomophobia.

Apart from personality factors and self esteem there are several other factors that have been reported to have association with nomophobia. the findings of a few such studies have been incorporated. The amount of time spent using a smartphone each day and how often you check it demonstrated a statistically significant correlation with the severity of nomophobia. However, only the relationship between phobia and self-esteem was statistically significant. According to Alwafi et al. (2022), a number of variables, including age, gender, marital status, and prior anxiety history, may predict cell phone reliance.

Additionally, studies show that female students are more likely to be displayed nomophobic behaviour than male students (Gezgin, Cakir and Yildirim, 2018; Moreno-Guerrero, et al., 2020). Yildrim & Sumuer (2016) found that gender and the duration of smartphone ownership had a greater influence on young people's nomophobic behaviors than age. According to Shambare, Rugimbana, and Zhowa (2012), age-related variances are not significantly different in mobile phone use among college students which suggests that the problem might affect everyone equally irrespective of age. It is clear from above mentioned studies that higher rate of nomophobia can be seen more frequently present in females in comparison to males. Additionally, it seemed that university students were most affected by nomophobia.

Aim of the study

This research aimed to study the relationship of personality and self-esteem with nomophobia among university students.

Objectives:

1. To study the relationship between personality and nomophobia among university students.
2. To study the relationship between self-esteem and nomophobia among university students.

Hypotheses:

1. There will be significant correlation between personality and nomophobia among university students.
2. There will be significant correlation between self-esteem and nomophobia among university students.

METHODS

Sample

A sample of 160 university students, ages 18 to 25, participated in this study. The sample constituted with this age range considering, this age group more vulnerable to nomophobia than other age groups. Both male and female from the university were involved in the sample. Majority of the participants were belonging to Delhi, Haryana, and Uttar Pradesh who were pursuing their graduate and post-graduation from SGT University, Gurugram (Delhi NCR). Only 27% of the participants represented belong to some other states of the country. Convenience sampling technique was followed to include the participants in the study. The data were gathered by administering the psychological tests along with demographic sheet by meeting the participant in person. Only individuals who voluntarily consented verbally to take part in this study were contacted. Participants in the study were guaranteed confidentiality and consent from the outset of the data collection process.

Table 1:
Descriptive Statistics of the Sample (N=160) University Students

Variables	Frequency	%	Mean	Std. Dev.
Gender				
Female	97	60.6	1.39	0.49
Male	63	39.4		
Age				
18-20	89	55.6		
21-23	64	40	1.49	0.583
24-26	7	4.4		
Qualification				
Postgraduate	20	12.5	1.88	0.332
Undergraduate	140	87.5		
Area of living				
Rural	37	23.1	1.77	0.423
Urban	123	76.9		
Residence				
Family	118	73.8		
Hostel	18	11.3	1.41	0.739
Paying Guest	24	15		
Relationship Status				
In a relationship	45	28.1	1.72	0.451
Single	115	71.9		
States of India				
Delhi	45	28.1		
Haryana	71	44.4	2.1	0.933
Uttar Pradesh	17	10.6		
Other States	27	16.9		

Tools used:

1. **Socio-demographic Form:** A socio-demographic form was created to gather the participants' socio-demographic information, such as gender, age, educational qualification, area of living, residence, relationship status and belongingness to the states of India. Descriptive statistics of all these aspects are provided in the Table-1.

2. **Questionnaire on Nomophobia (NMP-Q; Yildrim and Correia, 2015):** Nomophobia was measured using the Nomophobia Questionnaire (NMP-Q) (Yildirim and Correia, 2015). The four primary characteristics of nomophobia—not being able to communicate, losing connection, not being able to access information, and giving up convenience—are covered by the 20 items that comprise the NMP-Q. From 1 (strongly disagree) to 7 (strongly agree), the scale has seven points. The internal consistency reliability of the NMP-Q ranged from 0.83 to 0.91 for the subscales, with an overall value of 0.93. The scale's Cronbach alpha coefficient was 0.92 (Jahrami et al., 2023).

3. **NEO Five-Factor Inventory (NEO-FFI; Paul T. Costa and Robert R. McCrea, 1992):** Sixty items make up the NEO-FFI, which you must score on a five-point scale from "strongly disagree to strongly agree" depending on how true the statements are about you. The majority of individuals finish it in between 10 and 15 minutes. Agreeableness, conscientiousness, extraversion, openness, and neuroticism are the five qualities that make up the Five Factor Inventory, which examines personality traits. The acceptable subscales for agreeableness and extraversion were 0.60 and 0.58, respectively, while the subscales for neuroticism and conscientiousness had acceptable reliability (internal consistency) of 0.83 and 0.80, respectively. On the other hand, the openness to experience subscale displayed no internal correlation (0.39). Both the neuroticism and extraversion of the Eysenck and the NEO-FFI were correlated to a degree of 0.68 and 0.47, respectively, based on convergent validity (J. Anisi, 2012). This test can be used to evaluate an individual's primary personality traits and the roles that best fit them.

4. **Morris Rosenberg's Rosenberg Self-Esteem Scale (1965):** Ten items make up the Rosenberg Self-Esteem Scale, which is used to gauge self-esteem. The questions have four response options: "strongly agree to strongly disagree." The Rosenberg Self-Esteem Scale has been validated in multiple languages and has proven to be reliable and valid across a wide range of sample groups. With a Guttman scale coefficient of repeatability of.92, the RSE demonstrates a high degree of internal consistency. Test-retest reliability over a two-week period showed correlations of.85 and.88, demonstrating exceptional stability. It illustrates concurrent, predictive, and constructs validity with well-known groups. There is a strong correlation between the RSE and the Coopersmith Self-Esteem Inventory. It is also anticipated that the RSE will correlate with depression and anxiety scales.

5. RESULTS

In order to investigate the relationship between personality and self-esteem and nomophobia, as well as to examine these variables as potential predictors of nomophobia in university students, Pearsons' Product Moment Correlation and Regression Analysis were applied to the data.

Table 2 displays the correlation coefficient that was obtained.

Table 2:

Correlation Coefficient between variables of Personality (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness) and Self-Esteem with Nomophobia among University Students (N=160; Male: 63, Female: 97)

Variables	Nomophobia
Neuroticism	0.371**
Extraversion	0.003
Openness	-0.049
Agreeableness	-0.131
Conscientiousness	-0.107
Self-Esteem	-0.375**

**Correlation is significant at the 0.01level (2-tailed)

The findings displayed in Table 2 indicate that a positive and statistically significant Pearson correlation between neuroticism and nomophobia was discovered (r= .371; p<0.01). However, the strength of the correlation is found to be low. Significant results between Neuroticism and Nomophobia were obtained, which means that the individual higher in neuroticism trait will specifically, have higher level of nomophobia. The Pearson correlation of **extraversion** and **nomophobia** was found to be positive in direction and statistically non-significant (r= .003; p>0.01). However, the strength is found to be markedly low or negligible. This demonstrates that extroversion and nomophobia are not significantly correlated. The Personality variable, **openness** has shown non-significant negative correlation with nomophobia (r= -.049; p>0.01). However, the strength is found to be markedly low. The negative direction of correlation indicates that individual higher in openness trait will specifically, have lower level of nomophobia. The Personality variable, **agreeableness** has shown non-significant negative correlation with Nomophobia (r= -.131; p>0.01). However, the strength is found to be low. The negative direction of correlation indicates that individual higher in agreeableness trait will specifically, have lower level of nomophobia. The Personality variable, **conscientiousness** has shown non-significant negative correlation with Nomophobia (r= -.107; p>0.01). However, the strength is found to be very low. The negative direction of correlation indicates that individual higher in Conscientiousness trait will specifically, have lower level of Nomophobia. The Pearson correlation of **self-esteem and nomophobia** was found to be negative and statistically significant (r= -.375; p<0.01). However, the strength is found to be low. Insignificant results between self-esteem and nomophobia were obtained, which means that the individual higher in self-esteem will specifically, have lower level of nomophobia.

Table 3 displays the Regression Analysis that was obtained.

Table 3:

Regression Analysis: Self-Esteem and variables of Personality (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness) as Predictors of Nomophobia among University Students (N=160; Male: 63, Female: 97)

Variables	R	R Square	F	B	Beta	t	Significant
Neuroticism	.458	.209	6.756	.990	.268	3.070	.003*
Extraversion				.555	.129	1.651	.101
Openness				-.205	-.044	-.587	.558
Agreeableness				-.248	-.060	-.789	.432
Conscientiousness				.143	.041	.514	.608

Self-Esteem				-1.380	-.279	-3.307	.001*

The regression analysis's findings in the above table revealed that neuroticism is a significant positive predictor of nomophobia (B= .990, t= 3.070, p< 0.01). The Beta coefficient is 0.268. Self-esteem is a significant negative predictor of nomophobia (B= -1.380, p<0.05, t= -3.307). The Beta coefficient is -0.279. The F value revealed the overall significance of the result i.e. 6.756 which shows that the result is statistically significant and approximately 20.9% of the variance in Nomophobia could be accounted for by all the variables under the study.

DISCUSSION

It was found that the correlation coefficient of **neuroticism** and nomophobia was found to be positive and statistically significant and the **neuroticism** domain of personality is the significant predictor of nomophobia. Personality is considered as more or less enduring organization of individuals' character, temperament, intellect and physique that determine individual's adjustment to their environment. Neuroticism is one of the personality domains which includes the traits like anxiety, depression, negative feelings etc. The individual's level of these traits denotes their emotional stability. Higher levels of neuroticism related traits are linked with psychiatric disorders or the poor mental health. According to Sharma and Crossler (2014), emotional instability, and a vulnerability to negative emotions are traits of people with neuroticism. It has been suggested that nomophobia is a disorder that manifests as uneasiness, anxiety, irritability, and distress when a person is unable to use their smartphone. Nomophobia has been viewed as experience of irrational fear and anxiety caused when the individual cannot access their mobile phone. A study conducted by Okoye et al. (2018) revealed that neuroticism is significant predictor of nomophobia. Research carried out by Molu et al. (2023) reported from their findings that the levels of nomophobia is correlated with individual's personality features. Neuroticism is the only factor which is found to have significant positive correlation with nomophobia. All the others personality dimensions including extraversion, openness, agreeableness, conscientiousness are found to have insignificant correlation coefficient with nomophobia. However, the direction of the correlation coefficients of openness, agreeableness, conscientiousness with nomophobia is negative, and it is positive between extraversion and nomophobia.

The other variable incorporated in this study is self-esteem to see its relationship with nomophobia. The correlation coefficient of **self-esteem** and nomophobia was found to be negative and statistically significant. And to check whether it predicts nomophobia, the regression analysis found self-esteem as a significant predictor of nomophobia. Self-esteem is viewed as an individual's entire assessment of his/her ideas and feelings about oneself, including whether they are positive or negative (Rosenberg,1965). Individual with high self-esteem shows sense of superiority, they are frequently haughty, indulgent and entitled. A healthy sense of self-worth is demonstrated by an equitable and realistic self-perception. The individual with low self-esteem frequently criticizes others by ignoring their own shortcomings. Such individuals feel themselves inferior to others, they generally place more significance on other people's opinions than their own. Significant negative correlation coefficient from this research reveals that as the scores on self-esteem increases the scores on nomophobia decreases. Which means the level of self-esteem increases and the experience of nomophobia decreases. If the individual will have positive feelings about him/herself and the activities they perform, and also if they will have a sense of superiority, they will experience less fear, anxiety and discomfort when they cannot use mobile phone or computer. The finding of this research is in line with the finding of the research carried out by Vagkya, et. al. (2023). The findings of Vagkya, et. al. (2023) reveals that low self-esteem is very well linked

to nomophobia. Edwards et al. (2022) and Chethana et al. (2020) they reported statistically significant relationship between the variables, and having low self-esteem is inversely correlated with phobias.

CONCLUSION

Overall, these findings provide useful insight about the link between personality traits and self-esteem with nomophobia among university students. It has been found that the personality trait, neuroticism, and self-esteem have significant correlation with nomophobia, and also both of these variables are significant predictors of nomophobia. Studies conducted by Edwards et al., (2022) and Chethana, et al., (2020) reveal that there is the statistically significant and having low self-esteem is inversely correlated with having phobias. According to a number of studies, the prevalence of severe nomophobia in the general adult population is around 21%, with university students being the most affected (Humod et al., 2021). The finding of this research is also similar to the finding of research done by Vagkya, et al. (2023) which reveals that low self-esteem is intimately linked to nomophobia. The previous research done by Molu, et al. (2023) reveals that individual's levels of nomophobia were correlated with their personality features. It has been seen that female students are more likely to displayed nomophobia behavior and university students being the most affected. Further comparative study is required to validate and expand on these findings in various situations and participant categories. Additionally, interventions and strategies can be developed to address nomophobia and its impact on individuals' well-being and functioning.

IMPLICATIONS

The research with the aim to explore personality and self-esteem as predictors of nomophobia among university students can provide valuable insights to counselors, psychologists, and other professionals working with individuals experiencing nomophobia. Recognizing the personality traits which can predict nomophobia can help professionals identifying potential risk factors and tailor interventions accordingly. Professionals can address self-esteem issues by fostering self-acceptance, promoting self-worth, and encouraging healthy coping mechanisms to reduce dependence on mobile devices. By investigating how personality traits and self-esteem relate to nomophobia, researchers can identify specific risk factors associated with excessive smartphone use and fear of disconnection. This knowledge can inform policymakers about populations that may be more vulnerable to nomophobia and help them develop targeted interventions and preemptive measures. Understanding the predictors of nomophobia can assist policymakers in developing policies and guidelines related to smartphone use. Research findings can inform regulations concerning advertising practices, screen time recommendations, and the design of user interfaces that promote healthy smartphone use. It helps them to identify specific populations that may be more susceptible to excessive smartphone use and its negative consequences.

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Author contributions

Data collection was carried out by the second author. First and second authors were involved in writing synopsis, analysis of data and completing the manuscript.

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Data availability

The data is not publically available because it contains participants' personal information. Participants consented to publish the results of the study in the academic journal. They have not consented to make the data publicly available. The data sheet generated for analysis purpose is available with the second author.

Declarations

Authors of this research work declare that no part or full of this work has been published / submitted for publication anywhere else.

Conflict of interest

The authors declared that they have no conflict of interest with regard to this work.

Ethical considerations

Participants were informed about the aim and objectives of this research. They were also conveyed that ethical aspects like privacy of their identity will be maintained, their personal details that reveal their identity in any way will be kept confidential. Written informed consent was obtained from all participants for their volunteer participation in this study. All of them were informed that the results will be used for research and academic purposes.

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