International Journal of Sub-Saharan African Research (IJSSAR)
Vol. 2, Issue 4, pp. 401-414, December 2024, ISSN: 3043-4467 (Online), 3043-4459 (Print) **DOI: 10.5281/zenodo.14567595**

Analysis of Reported Effects of Nomophobia among Select University Undergraduates in Kano State, Nigeria

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ABSTRACT

Background: Nomophobia is basically the fear experienced when an individual cannot access or communicate with a mobile phone. Mobile phones, in particular, have become an integral part of daily life, serving as essential tools for communication, information retrieval, and social interaction. While the convenience offered by mobile phones is undeniable, a growing concern has emerged regarding the psychological effects of excessive mobile phone use especially among university students and particularly in Kano state, Nigeria, leading to a phenomenon known as nomophobia.
Objective: This study investigated the prevalence and effects of nomophobia among university students in Kano State, focusing on its effects on academic performance and psychological well-being.
Method: Data were gathered through social survey with questionnaire as the main tool of inquiry. Statistical tool was used as the instrument of data analysis. The study espoused the theoretical assumptions of the Attachment Theory to investigate the problem and explain the findings.
Results: The findings indicated that 42.5% of respondents used their phones constantly and consistently, leading to high levels of anxiety and stress and this impact negatively on academic performance. Strategies to manage distractions included turning off notifications and setting time limits.
Conclusion: The study concluded that nomophobia significantly affects students' academic performance and mental well-being because of consistent use and attachments to mobile phones.
Unique contribution: This study has provided a distinct perspective on the apparent and substantial effects of nomophobia on the academic performance and psychological well-being of university students in Kano state.
Key recommendation: The study recommended a thorough resocialization and reorientation of university students in mindfulness-based programs, digital literacy workshops, improved time management resources, and mental health support services.

Keywords: nomophobia, academic performance, psychological well-being and stress management

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INTRODUCTION

In this digital age, technological advancements have revolutionised the way individuals communicate and access information (Onyejelem & Aoandover, 2024). Mobile phones, in particular, have become an integral part of daily life, serving as essential tools for communication, information retrieval, and social interaction. While the convenience offered by mobile phones is undeniable, a growing concern has emerged regarding the psychological impact of excessive mobile phone use, leading to a phenomenon known as Nomophobia (No Mobile Phone Phobia) (Kang, et al., 2014). Cherry (2020) describes Nomophobia as the fear of being without your phone. The concept of Nomophobia, which means excessive and problematic use of smartphones, is basically the fear experienced when an individual cannot access or communicate with a mobile phone (Gezgin and Çakır, 2016).

In the markets, there are various forms of devices for the purpose of communication. This ease to use such devices offer advanced computing capabilities and holds an important place in the day-to-day life of individuals. King (2010) observed that people acquired certain habits by using modern electronic communication devices. While these habits include good aspects such as convenience, comfort and availability, some have negative aspects such as pathological dependency, fear and anxiety as a result of not being able to use those devices.

Nomophobia refers to the fear or anxiety of being without a mobile phone or unable to use it. As technology continues to evolve, the prevalence of Nomophobia has become a subject of interest, especially among communication scholars and researchers. However, university students are among the most avid users of mobile devices for social and academic engagements. The effects of nomophobia on the well-being and academic performance of these students warrant careful examination, and this paper aims to explore these implications among students in Kano state. In theory and practice Smartphones and other communication devices provide noticeable benefits and help people to satisfy their needs, but on the other hand, some recent empirical studies found that people exhibit physical, mental, socio-emotional and other symptoms when they are denied access to effective use of their mobile phones. Compulsive checking, over dependency and excessive usage of a mobile or Smartphone addiction can be shown as examples related to these problems (Hong, 2012).

The increasing ubiquity of mobile phones in contemporary society has led to a concern regarding the psychological repercussions of excessive mobile phone usage. Among the various manifestations of this concern, Nomophobia, an acronym for "No Mobile Phone Phobia," has gained prominence as a unique psychological condition characterized by the fear or anxiety associated with being without access to one's mobile phone. While mobile phones have undeniably become indispensable tools for communication, information retrieval, and social interaction, their omnipresence has given rise to potential adverse consequences (Kivrak, 2021).

Abdullahi & Muhammad (2020) studied the prevalence of Nomophobia among postgraduate students in Kaduna State, Nigeria. A descriptive survey research design was utilized to recruit 106 students using stratified random sampling technique from two Universities in the state. The research findings indicated that Nomophobia prevalence level among the students was high and

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the differences between male and female students were also significant, with the males having higher levels. This study equally discovered a high and consistent use of mobile phones among university students in Kano state. However, this study examined undergraduate students while Abdullahi & Muhammad (2020) studied postgraduate students. It is assumed that the variation in the academic levels of the respondents might influence their responses.

Şahin, (2021) examined the effects of Nomophobic behaviours of university students on their intellectual thinking tendency in their daily lives. The study found that Nomophobia prevents students from communicating effectively with their friends and intimate surroundings, this leads to misunderstandings, prevents intellectual development and negatively affects their overall lives. The Intellectual thinking tendency in university students is thus affected by Nomophobia. There is a significant relationship between Nomophobia, and the tendency to think intellectually. It has long been established that Nomophobia is an extremely harmful condition and this study has proven that it causes high intellectual harm to young people. While the focus of Şahin, (2021is how nomophobia affect communication and intellectual thinking among students this study examined the influence of nomophobia on the academic performance and psychological well being of students.

This study analyses the nuanced dimensions of Nomophobia among university students in Kano state, exploring its prevalence, manifestations, and potential reported effects on psychological well-being and academic pursuits.

Objectives

The primary objectives of this study are:

1. To assess the prevalence of Nomophobia among university students in Kano state.
2. To examine the effects of Nomophobia on the psychological well-being of university students.
3. To investigate the relationship between Nomophobia and academic performance among university students in Kano state.

LITERATURE REVIEW

Concept of nomophobia

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. Nomophobia is conceptualized as the fear or anxiety of being without access to one's mobile phone, which manifests in various psychological symptoms such as increased stress, anxiety, and depression. This phenomenon is increasingly prevalent in contemporary society, mirroring society's growing dependency on mobile technology for social interaction, information access, and daily tasks (Onyejelem, Ude-Akpeh & Uduma, 2015). The term Nomophobia is constructed on definitions described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), it has been labelled as a "phobia for a particular/specific thing" (Bhattacharya, Bashar, Srivastava & Singh, 2019).

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Numerous studies have investigated the prevalence of Nomophobia among university students globally. Research by Yildirim and Correia (2015) reported high prevalence rates, with nearly 90% of university students experiencing moderate to severe levels of Nomophobia. Similarly, Elhai et al. (2017) found elevated levels of Nomophobia across diverse cultural contexts.
Moreover, they suffered from the highest level of anxiety for not being able to communicate with important others and access information when they cannot reach mobile phones. Furthermore, there were significant differences in Nomophobia by duration of daily Smartphone checking time, most frequently used Smartphone application type and duration of daily social media usage but no significant differences by gender.

Psychological Dimensions of Nomophobia

Various psychological factors are involved when a person overuses the mobile phone, e.g., low self-esteem, extrovert personality. The burden of this problem is now increasing globally. Mental disorders like, social phobia or social anxiety, and panic disorder may also precipitate Nomophobia symptoms. The signs and symptoms are observed in Nomophobia cases include- anxiety, respiratory alterations, trembling, perspiration, agitation, disorientation and tachycardia. Nomophobia may also act as a proxy to other disorders. So, we have to be very judicious regarding its diagnosis. Some mental disorders can precipitate Nomophobia. The complexity of this condition is very challenging to the patients' family members as well as for the physicians as Nomophobia shares common clinical symptoms with other psychological disorders. We have to re-establish the human-human interactions, face to face connections. So, we need to limit our use of mobile phones rather than banning it because we cannot escape the force of technological advancement (Nwafor, 2019; Notara, Vagka, Gnardellis & Lagiou, 2021).

A descriptive study (2011) to evaluate the threat of mobile phones and addiction was conducted among 160 students from Belarus University. The data was collected using a questionnaire which also included the test of mobile phone addiction. 1/10th of the students had the symptoms of addiction. 68.11% belonged to the age group of 18-20 years; and 1/3rd of them had two mobile phones. Nearly half (43.16%) of the sample had knowledge about mobile phone addiction and only 28.8% were familiar with the term Nomophobia. Hence, it was concluded that, majority of youngsters are being addicted to mobile phones and were unaware of Nomophobia. Hence the need to sensitize and educate about this dreaded disorder.

Nomophobia has been linked to various negative psychological outcomes, including increased anxiety, stress, and depression. Research by King et al. (2014) and Arpaci et al. (2017) documented symptoms such as withdrawal, irritability, and difficulty concentrating among individuals experiencing Nomophobia. Thomée et al. (2011) found associations between Nomophobia and poor sleep quality, as well as decreased overall life satisfaction. While these findings provide valuable insights into the psychological implications of Nomophobia, research specific to university students in Kano state is limited, highlighting the need for further investigation in this area. Nomophobia has been shown to negatively impact academic performance, with higher levels of Nomophobia associated with lower grades and decreased cognitive functioning. Bian and Leung (2015) and Gutiérrez-Puertas et al. (2019) found negative correlations between Nomophobia and

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academic achievement. Lepp et al. (2014) identified poor time management skills and decreased motivation for academic tasks among individuals experiencing Nomophobia.

Gezgin, Deniz & Ümmet, Durmuş (2021) conducted study on undergraduate physiotherapy (PT) students in Saudi Arabia unveiled a strikingly high prevalence of Nomophobia, affecting nearly all respondents, with the majority experiencing it at a mild level. Academic performance emerged as a significant factor, with students achieving lower grade point averages (GPA) displaying elevated levels of Nomophobia, indicating a potential reciprocal relationship between academic success and Smartphone dependence. Moreover, students at different stages of their academic journey, particularly bridging students, reported heightened Nomophobia scores, suggesting a potential vulnerability during transitional periods. Interestingly, those who hadn't received academic warnings demonstrated higher Nomophobia scores, implying a potential link between fear of missing out on academic opportunities and digital device reliance.

Sabo (2021) investigated Nomophobia prevalence among postgraduate students in Kaduna State, Nigeria. Eight null hypotheses were formulated to guide and direct the study. The main research tool called Nomophobia Questionnaire (NMP-Q) developed by Yildirm and Correia (2015) was used to measure the Nomophobic behaviors of the respondents. The tool consist of 20-items, classified into four sub-scales was structured on a 7-point Likert-type rating format. It composite reliability coefficient was .940 determined through Cronbach alpha method. Data were analyzed using both descriptive and inferential statistics. Two of the eight hypotheses produced statistical significance. The findings of the research are the Nomophobia prevalence level among the students was high and the differences between male and female student was also significant, with the males having a higher levels. The remaining hypotheses did not produced statistical significance.

Attachment Theory

The study espouses the theoretical postulations of The Attachment Theory. Originally proposed by John Bowlby, the theory suggests that individuals develop attachment bonds with primary caregivers during infancy, which influence their later relationships and behaviors. In the context of Nomophobia, individuals may form attachment bonds with their mobile phones, viewing them as sources of comfort, security, and social connection.

Attachment styles may be one of the dispositional antecedents of Nomophobia, where attachment is defined as "the over-allocation of cognitive and emotional resources towards a particular object, construct, or idea" (Shonin, Van ordon, & Griffiths, 2014). Attachment theory has originally hypothesised the predisposition of humans to form and preserve strong emotional bonds with their caregivers. However, later, the likelihood of emotional bondage beyond humans has been suggested, in the forms of obsessive-compulsive disorder, compulsive work, or various types of addictions. Thus, Van Gordon et al (2017) conclude that unhealthy attachments to objects, people, or situations may be developed.

Secure attachment is associated with a positive model of self as well as a positive model of others. Therefore, individuals who score lower on both dimensions are classified as insecurely attached (Brennan, Clark, Shaver, Simpson & Rholes, 1998). Avoidant attachment is associated with a

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positive model of self and a negative model of others. It can be construed as hypersensitivity to unresponsiveness, rejection, and abandonment. Individuals whose dominant style is avoidant tend to have difficulties with close relationships and intimacy and seek to maintain self-reliance, emotional distance, and control. They distance themselves from others and avoid experiencing negative emotions (Mikulincer & Shaver, 2010). Anxious attachment is associated with a negative model of self and a positive model of others. Anxious attachment is characterized by greater emotional dependence, desire for more commitment and closeness, and more intensive attention from partners. Individuals dominant in this attachment style tend to have a fear of rejection, a negative perception of self-worth, worry about being abandoned or unloved, and thereby, seek a higher need for closeness and intimacy (Heng, Gao, & Wang, 2023).

Attachment Theory suggests that disruptions in attachment bonds can lead to emotional distress and behavioral dysregulation. For individuals with Nomophobia, separation from their mobile phones may evoke feelings of abandonment or loss, triggering emotional distress and maladaptive coping mechanisms. These individuals may exhibit behaviors such as constant checking of their phones, avoiding situations where they cannot use their devices, or experiencing anxiety when their phones are out of reach. The theory is relevant to this study as it explains why the problem under study exists and further expands the frontiers of our knowledge on nomophobia especially among university students in Kano.

METHOD

This research employed a quantitative survey approach utilising structured questionnaires to investigate nomophobia among university students in Kano state, Nigeria. A stratified sample of 320 students was selected through convenient sample from various faculties across the three universities: Bayero University Kano (BUK), Aliko Dangote University of Science and Technology (ADUST), and Yusuf Maitama Sule University, Kano (YUMSUK). 76 students were selected from BUK, 64 students from ADUST and 60 students from YUMSUK. The population of the study consists of all undergraduate students within the 2022/2023 session in the selected universities.

The questionnaire was designed to assess nomophobia prevalence, its psychological implications, and its effects on academic performance. Questions were adopted from validated scales and instruments used in previous studies on Nomophobia and related constructs. The questionnaire include demographic, psychographic and Likert scale items to measure the frequency and intensity of Nomophobia symptoms. Quantitative data obtained from the questionnaires was analyzed using descriptive and inferential statistical techniques.

RESULTS

This section presents the findings from the questionnaire administered to university students in Kano State to examine the effects of Nomophobia. The data was collected through a self administered questionnaire to a sample of 320 undergraduate students across Bayero University Kano (BUK), Aliko Dangote University of Science and Technology (ADUST), and Yusuf Maitama Sule University Kano (YUMSUK). The results are analyzed and discussed in relation to

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the study's objectives and existing literature on Nomophobia, with a response rate of 62.5%. (200) Out of the 320 questionnaires distributed.

Demographic Information

Table 1: Demographic Characteristics of Respondents

	Demographic Variable	Frequency	Percentage (%)
Gender	Male	106	53
	Female	94	47
	Total	**200**	**100**
Age Group	18-20	53	26.5
	21-23	77	38.5
	24-26	43	21.4
	27 and above	27	13.5
	Total	**200**	**100**
University	BUK	76	38
	ADUST	64	33
	YUMSUK	60	30
	Total	**200**	**100**
Year of Study	1st Year	54	27
	2nd Year	54	27
	3rd Year	38	19
	4th Year	54	27
	Total	**200**	**100**

Source: Field Survey (2024)

By gender distribution the table shows that respondents (53%) are male, and 47% are female. This near-equal gender representation ensures that the study captures perspectives from both male and female students. While males slightly outnumber females, the balance is close enough to provide a comprehensive view of nomophobia across genders. This distribution is reflective of a general university setting where gender ratios can vary slightly but typically do not show extreme disparities.

The age distribution among respondents is spread across several age groups with the largest group being those aged 21-23 years, making up 38.5%). This is followed by the 18-20 age group with 26.5%, the 24-26 age group has 21.4% and those aged 27 and above at 13.5%). This age range is typical for university students, capturing both younger undergraduates and older students who might be pursuing extended education or returning to university after some time. The predominance of the 21-23 age group is significant as this group is often most engaged with mobile technology, potentially making them more susceptible to nomophobia.

The year of study distribution is fairly balanced across different levels: 1st Year, 2nd Year, and 4th Year students each constitute 27% , while 3rd Year students make up 19%). This even spread across different academic years allows for a comprehensive analysis of how nomophobia affects students at various stages of their university education. First-year students might face the anxiety

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of transitioning into university life, while final-year students may experience stress related to graduation and future career plans. The consistent representation across all years of study provides insights into how nomophobia impacts academic performance and psychological well-being throughout the university journey.

The demographic characteristics of the respondents in this study provide a balanced, diverse and representative sample of university students in Kano State. This diversity allows for a nuanced understanding of how different demographic factors influence the prevalence and impact of nomophobia, thereby informing targeted interventions and support mechanisms that can be implemented to help students manage mobile phone usage effectively.

Nomophobia Assessment

Table 2: Frequency of Mobile Phone Use

Usage Frequency	Frequency	Percentage (%)
Constantly (more than 6 hours/day)	85	42.5
Frequently (4-6 hours/day)	72	36
Occasionally (2-4 hours/day)	33	16.5
Rarely (less than 2 hours/day)	10	5
Total	200	100

Source: Field Survey (2024)

Table 2 presents data on the frequency of mobile phone use among resondents. The table categorizes mobile phone usage into four distinct groups: constantly (more than 6 hours/day), frequently (4-6 hours/day), occasionally (2-4 hours/day), and rarely (less than 2 hours/day).
42.5% respondents reported using their mobile phones constantly; for more than 6 hours per day. This high level of usage indicates a pervasive reliance on mobile devices among these students. Constant mobile phone use can be attributed to several factors, including academic needs), social interactions, entertainment, and the pervasive use of social media platforms. The implications of such high usage are profound, potentially leading to increased anxiety, decreased academic performance, and various psychological issues associated with nomophobia (Abi-Jaoude, Naylor, & Pignatiello, 2020). Also, 36% of the respondents reported frequent mobile phone use, between 4 to 6 hours per day. This level of use, while slightly lower than constant use, still indicates a significant amount of time spent on mobile devices daily.

Table 3: level of Nomophobic anxiety

Anxiety Level	Frequency	Percentage (%)
Very High	63	31.5
High	58	29
Moderate	42	21
Low	37	18.5
Total	200	100

Source: Field Survey (2024)

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Table 3 presents the data on anxiety levels experienced by university students in Kano State when they are without their mobile phones. 31.5% of the respondents reported experiencing very high anxiety when they are without their mobile phones. This suggests high dependency on mobile devices. The high levels of anxiety could be due to the constant need to stay connected, fear of missing out and reliance on mobile phones for daily activities and social interactions. Such a high level of anxiety is indicative of severe nomophobia, which can have detrimental effects on mental health and general social well-being (Bai, Liu, Bai & Cao, 2024).

Also 29% of respondents reported high levels of anxiety without their phones. Moderate anxiety was reported by 21% of the respondents. Students in this category experience some level of discomfort when without their phones, but it is not as overwhelming as in the previous groups. Moreover, 18.5% of respondents reported low levels of anxiety without their mobile phones. These students appear to have a healthier relationship with their devices, experiencing minimal discomfort when disconnected. Low anxiety levels suggest that these students can function well without constant access to their phones and are likely better at managing their usage. This group may engage in more offline activities, have stronger interpersonal relationships, or simply use their phones less frequently for critical tasks (Gajdics & Jagodics, 2021).

The data reveal a significant impact of Nomophobia on the student population in Kano State, with over 60% of respondents experiencing high to very high anxiety without their mobile phones. This highlights a critical issue of dependency and the potential mental health risks associated with excessive mobile phone use. The varying levels of anxiety also suggest differing degrees of Nomophobia, with some students managing better than others. These findings show the need for interventions to help students develop healthier phone usage habits and coping strategies to mitigate the psychological effects of Nomophobia (Bai, Liu, Bai, & Cao, 2024).

Psychological Implications and Academic Impact

Table 4: Stress Levels Due to Mobile Phone Use

Stress Level	Frequency	Percentage (%)
Very High	50	25
High	70	35
Moderate	50	25
Low	30	15

Source: Field Survey (2024)

Table 4 presents the data on stress levels experienced by university students in Kano State due to mobile phone use. A total of 25% of the respondents reported experiencing very high stress levels due to their mobile phone use. This high level of stress could be attributed to various factors, including the constant need to stay updated with social media, academic responsibilities, and continuous communication demands. Very high stress levels suggest that these students might struggle with balancing their mobile phone use with other aspects of their lives. Another 35% of respondents reported high stress levels due to mobile phone use. This indicates that a significant number of students are affected by their mobile phone habits to a considerable extent. The students

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in this category might find themselves frequently distracted by their phones, resulting in reduced focus on their studies and other important activities. Moderate stress was reported by yet, another 25% of the respondents. Students experiencing moderate stress may feel some pressure from their mobile phone use, but it is not as overwhelming as the very high or high stress levels. These students might be able to manage their stress more effectively.

Again, 15% of respondents reported low stress levels due to mobile phone use. These students likely have a healthier relationship with their mobile devices, experiencing minimal stress from their usage. Low stress levels suggest that these students might be better at regulating their phone use, perhaps through disciplined usage patterns or by prioritizing offline activities and interpersonal interactions. This group appears to have found a balance that allows them to use their phones without significant negative impacts on their stress levels.

The data from the field survey indicate that mobile phone use is a significant source of stress for many university students in Kano State. With 60% of respondents experiencing high to very high stress levels, there is a clear indication that mobile phone dependency is affecting students' mental health. Moderate and low stress levels, reported by 40% of students, suggest that while some students manage their phone use better, the overall trend points towards a need for intervention.

Table 5: effects on academic performance

Impact Level	Frequency	Percentage (%)
Very Significant	45	22.5
Significant	43	21.5
Moderate	84	42
Low	28	14
Total	200	100

Source: Field Survey (2024)

Table 5 presents data on the impact of mobile phone use on the studies. The levels of impact are categorized into four groups: very significant, significant, moderate, and low. Here, 22.5% of the respondents reported that mobile phone use has a very significant impact on their studies. This indicates that for these students, mobile phone use is a major distraction that adversely affects their academic performance. The very significant impact could be attributed to excessive time spent on non-academic activities such as social media, gaming, and online entertainment, which detracts from studying and completing assignments. This level of impact suggests that these students struggle significantly with time management and prioritizing their academic responsibilities over mobile phone use (Junco, 2012). Another 21.5% of respondents reported a significant impact of mobile phone use on their studies. This suggests that mobile phone use is a considerable factor affecting academic performance for a significant number of students. Moderate impact was reported by the largest group, 42% of respondents for these students, mobile phone use have a noticeable but manageable effect on their studies. The smallest group, 14% of respondents reported a low impact of mobile phone use on their studies. These students appear to have a healthier relationship with their mobile devices, experiencing minimal interference with their academic work.

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Summary of key findings

The data indicate a high prevalence of Nomophobia among the respondents, with 75% of students using their mobile phones for more than 4 hours a day and 70% reporting high to very high anxiety levels when without their phones. These findings are consistent with previous studies that have highlighted the growing dependency on mobile phones among young adults (Yildirim & Correia, 2015). The psychological impact of mobile phone usage is significant, with 60% of students experiencing high to very high stress levels. This aligns with research suggesting that excessive mobile phone use can lead to increased stress and anxiety (Elhai et al., 2017). The data also show a substantial impact on academic performance, with 70% of respondents indicating that their mobile phone use significantly affects their studying and grades. Various strategies are employed by students to manage mobile phone distractions. Setting time limits (40%) and using focus apps (25%) are the most common methods. These strategies reflect an awareness among students of the need to manage their phone usage to mitigate its negative effects on their academic performance and mental health.

CONCLUSION

This concludes that there is high level of exposure to nomophobia because of the persistent and consistent use of mobile phones among university students in Kano state. This disposition culminates in the development of psychological stress and disorder which significantly affect academic performance in the respondent. Consequently, students developed varying stress reduction and management mechanisms to reduce effect of nomophobia on their academic performances.

Ethical clearance

Ethical consent was sought and obtained from the participants used in this study. They were made to understand that the exercise was purely for academic purposes, and their participation was voluntary.

Acknowledgements

We acknowledge the Deans of student affairs of the selected universities where the study was conducted

Sources of funding

The study was not funded.

Conflict of interest

There is no conflict of interest

Authors' Contributions

Hassan Alhaji Ya'u conceived the study, including the design and the data collection while Haruna Ismail analysed and interpreted the data. Finally, Hassan Alhaji Ya'u wrote the initial manuscript. All the authors read and approved the final manuscript for publication in its present form.

Availability of data and materials.

The datasets on which conclusions were made for this study are available on reasonable request.

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International Journal of Sub-Saharan African Research (IJSSAR)
Vol. 2, Issue 4, pp. 401-414, December 2024, ISSN: 3043-4467 (Online), 3043-4459 (Print) **DOI: 10.5281/zenodo.14567595**

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