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INTERNET USE AND SLEEP QUALITY AS PREDICTORS OF ACADEMIC PROCRASTINATION AMONG UNDERGRADUATE STUDENTS OF THE UNIVERSITY OF MKAR, MKAR, NIGERIA

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ABSTRACT
Academic procrastination is the voluntary delay of academic tasks despite the potential for adverse consequences, a phenomenon widespread among university students and often linked to poor academic performance and psychological distress. While prior research has independently associated academic procrastination with internet use and sleep quality, few studies have examined their combined predictive role, particularly in under-researched regions such as North-Central Nigeria. This study investigated internet use and sleep quality as predictors of academic procrastination among 220 undergraduate students (males = 89, females = 131) from the University of Mkar, Mkar, using a cross-sectional survey design. Participants completed the Internet Addiction Test, Pittsburgh Sleep Quality Index, and Academic Procrastination Scale. Results revealed significant positive correlations between internet use and procrastination (r = 0.219, p = 0.001) and between sleep quality and academic procrastination (r = 0.276, p = 0.001). In a multiple regression analysis, internet use and sleep quality jointly accounted for 5.7% of the variance in academic procrastination, with internet use emerging as a significant individual predictor (β = 0.211, p = 0.002). In contrast, sleep quality did not retain significance when controlled (β = .097, p > .05). The findings highlight the role of internet engagement as an important behavioural factor in academic procrastination and suggest that sleep quality may function indirectly. Practical implications include integrating digital discipline and time management training into university support systems to mitigate procrastination.

Keywords: *academic procrastination, internet use, sleep quality, undergraduates, Nigeria,*

BACKGROUND

Procrastination, defined as the voluntary delay of intended actions despite foreseeable negative consequences, is a pervasive behaviour observed across work, health, and education (Steel, 2007). It reflects a complex interplay of cognitive, emotional, and motivational factors (Solomon & Rothblum, 1984). is often influenced by impulsivity, low self-regulation, and task aversiveness. Globally, procrastination has been linked to stress, reduced productivity, and adverse psychological outcomes, highlighting its relevance as a behavioural and mental health concern.

In the educational context, academic procrastination refers to the deliberate postponement of academic tasks despite awareness of potential adverse consequences (Nnaemeka, Unachukwu, & Nwosu, 2022). It is prevalent among students and associated with lower academic performance, poor study habits, and increased psychological distress, including anxiety, depressive symptoms, and suicidality (Delgado et al., 2025; Gayary & Kalita, 2025; Anierobi et al., 2021). A study in Nigeria has also confirmed that students exhibiting academic procrastination perform worse academically and demonstrate poor study strategies (Anierobi et al., 2024).

The multifactorial nature of academic procrastination involves both individual and environmental factors, including inadequate planning, low self-efficacy, impulsivity, neuroticism, excessive internet and social media use, and disrupted sleep patterns (Faure-Carvallo et al., 2025; Özbay, 2025). Sleep quality has also been identified as an important behavioural factor influencing academic functioning, with poor sleep linked to decreased attention, reduced cognitive control,

impaired executive functioning, and academic inefficiency (Li et al., 2019; Pusparini et al., 2022). However, empirical findings remain mixed, and relatively few studies have explored the relationship between internet use and sleep quality within an integrated explanatory model of procrastination.

Interventions targeting time management, self-regulation, and behavioural strategies have been effective in reducing procrastination and improving academic engagement (Hailikari, Katajavuori, & Asikainen, 2021; Miyake & Kane, 2022; Ekwelundu, Okeke, & Onyeukpere, 2021). Understanding these predictors through robust theoretical frameworks, such as Temporal Motivation Theory (TMT; Steel & König, 2006) and Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000), provides a foundation for examining the mechanisms underlying academic procrastination.

Statement of the Problem

Academic procrastination is the intentional delay of academic tasks despite awareness of negative consequences, and it remains widespread among university students globally, including in Nigeria, where studies report moderate to high prevalence and associated academic and psychosocial difficulties (He, 2017; Rahami & Hall, 2021; Anierobi et al., 2021). Although research has linked procrastination with internet use and sleep patterns, most studies have examined these factors independently, with limited attention to their combined influence (Fentaw et al., 2022; Sahnoun et al., 2023). In Nigeria, existing research is also geographically concentrated in Eastern regions, with no known studies in North-Central Nigeria. To the best of current knowledge, no study has examined internet use, sleep quality, and academic procrastination among undergraduates in this region, underscoring the need for further investigation.

Therefore, this study examined whether internet use and sleep quality are associated with academic procrastination and whether they jointly predict it among undergraduate students of the University of Mkar, Mkar, Nigeria. The objectives were to:

1. Determine the relationship between internet use and academic procrastination.
2. Examine the relationship between sleep quality and academic procrastination.
3. Assess the joint predictive effect of internet use and sleep quality on academic procrastination.

Review of Related Studies

Academic Procrastination

Academic procrastination is consistently linked to stress, suicidality, and poor academic outcomes (Delgado et al., 2025; Nnaemeka et al., 2022). In a sample of 235 postgraduate students, Gayary and Kalita (2025) reported a significant negative relationship between procrastination and academic achievement. Nigerian studies further highlight its detrimental effect on learners' performance (Anierobi et al., 2024). Predictors include inadequate planning, emotional exhaustion, irresponsibility, neuroticism, and poor self-regulation (Faure-Carvallo et al., 2025). Behavioural interventions addressing negative emotions and irrational cognitions associated with pending tasks significantly reduce procrastination (Miyake & Kane, 2022; Ekwelundu et al., 2021).

Internet Use and Academic Procrastination

Problematic internet and social media use strongly predicts academic procrastination and align with SDT, which emphasizes the role of satisfying autonomy, competence, and relatedness (Deci & Ryan, 1985, 2000). Kurker and Surucu (2024) found that social media addiction partially mediated the relationship between unmet psychological needs and academic procrastination: need satisfaction directly reduced procrastination and indirectly lowered it through moderated

social media use. Similarly, Aznar-Díaz (2020) reported positive correlations between internet addiction and procrastination among university students, with social media partially mediating the effect of unmet psychological needs. Aljarrah, Khasawneh, and AlFwaeer (2025) demonstrated that Social Networking Site (SNS) addiction, habitual daily use, and distraction increased procrastination, with TikTok and Instagram users being most affected. Özbay (2025) found that nomophobia, netlessphobia, and low academic self-efficacy were associated with increased procrastination, whereas attentional control reduced it. Nigerian studies support these findings, showing that social media addiction predicts academic procrastination across gender and academic levels (Anierobi et al., 2021; Abdulgafi, 2017). Excessive internet use is often linked to underlying mental health challenges, highlighting the importance of addressing students' psychological needs for autonomy and competence (Internet Addiction among College Students, 2023).

Sleep Quality and Academic Procrastination

Sleep quality is linked to increased procrastination and decreased academic performance. Fernandes and Trivedi (2025) reported a moderate positive correlation between poor sleep and procrastination among Indian students. Sirois et al. (2015) found that feeling unrested was linked to higher procrastination, while Li (2019) reported associations between general procrastination, shorter weekday sleep, and social jetlag. Pusparini et al. (2022) found no significant relationship during the COVID-19 pandemic, suggesting contextual factors may influence outcomes. Nevertheless, sleep disruption impairs self-regulation, consistent with TMT, which emphasizes impulsivity and delayed reward sensitivity.

Internet Use, Sleep, and Procrastination

Excessive internet use negatively affects sleep, exacerbating procrastination. A Nigerian study reports a high prevalence of internet addiction and poor sleep quality, with smartphone and social media use significantly associated with sleep disruption and academic delays (Fehintola & Hassan, 2025; Akindele & Bukola, 2025; Irshad, Gillani, & Shoukat, 2025). Social media-driven sleep loss impairs attentional control and motivation, promoting procrastination in line with both TMT and SDT.

Theoretical Framework

Temporal Motivation Theory (TMT; Steel & König, 2006)

Temporal Motivation Theory posits that procrastination arises from interactions between expectancy, task value, impulsiveness, and delay. Tasks with delayed or distant rewards are more likely to be postponed in favour of immediately gratifying alternatives, such as social media engagement or other online activities. Empirical evidence supports this model, indicating that impulsivity, reduced attentional control, and delayed academic outcomes are significant predictors of procrastination (Aznar-Díaz, 2020; Özbay, 2025). Sleep deprivation further weakens self-regulatory capacity and increases susceptibility to task delay, thereby compounding procrastinatory tendencies.

Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000)

Self-Determination Theory explains procrastination as a motivational regulation problem resulting from unmet psychological needs for autonomy, competence, and relatedness. Students who experience low autonomy or competence in their academic tasks may gravitate toward online activities that provide immediate psychological gratification, thereby increasing the likelihood of academic delay. Kurker and Surucu (2024) demonstrated that psychological need satisfaction directly reduces procrastination and indirectly does so by moderating social media use. Other studies have found that excessive or addictive social media use mediates the relationship

between unmet psychological needs and procrastination (Aznar-Díaz, 2020; Aljarrah et al., 2025; Anierobi et al., 2021).

Integrated Perspective and Hypotheses

Together, TMT and SDT explain academic procrastination as a challenge in both temporal-cognitive and motivational regulation. Internet use can increase impulsiveness and provide immediate gratification (TMT) while also temporarily satisfying unmet psychological needs (SDT), thereby reducing academic engagement. Similarly, sleep quality influences self-regulation and perceived competence, contributing to motivational decline and delayed academic action. Thus, both internet use and sleep quality are theoretically positioned as behavioural and psychological predictors of academic procrastination.

Guided by these frameworks, the following hypotheses were proposed:

H1: There will be a significant relationship between internet use and academic procrastination among undergraduate students of the University of Mkar, Mkar.
H2: There will be a significant relationship between sleep quality and academic procrastination among undergraduate students of the University of Mkar, Mkar.
H3: Internet use and sleep quality will jointly and significantly predict academic procrastination among undergraduate students of the University of Mkar, Mkar.

METHOD

Research Design

A cross-sectional survey design was employed because the study aimed to investigate naturally occurring relationships among internet use, sleep quality, and academic procrastination at a single point in time. This design is appropriate since the variables were not manipulated, and the intention was to identify associations and predictive effects rather than causal relationships, while efficiently collecting data from a large undergraduate population. This design also enables the generalization of findings within the study context, providing empirical evidence to inform future longitudinal or intervention-based research.

Participants

The study comprised 220 undergraduate students of the University of Mkar, Mkar. Participants were drawn across different academic levels: 100L (6.4%), 200L (29.5%), 300L (28.2%), 400L (31.8%), and 500L (4.1%). The sample included 89 males (40.5%) and 131 females (59.5%), aged 18–27 years (M = 22.02, SD = 1.69). Students were recruited from multiple departments across four Colleges and 15 departments, ensuring broad institutional representation.

Sampling Technique & Sample Size Justification

A convenience sampling technique was used due to ease of accessibility and feasibility, consistent with similar university-based studies. The sample size was initially computed using Yamane's (1967) formula (population = 1,354; theoretical n = 309). However, the final analysable sample size was 220 due to response and data quality constraints. However, Cohen (1992) indicates that a sample size of 85 or more is adequate for correlational studies; sensitivity analysis shows that n = 220 provided sufficient power to detect r = 0.19, confirming the adequacy of the sample size.

Instruments

Internet Addiction Test (IAT; Young, 1998)

The IAT is a 20-item scale measuring excessive and maladaptive internet engagement. Responses are rated on a 5-point Likert scale (1 = rarely, 5 = always), resulting in a total score

ranging from 20 to 100. Scores are interpreted as follows: 20–30 = normal use, 31–49 = mild problematic use, 50–79 = moderate problematic use, and 80–100 = severe problematic use. Young (1998) reported high internal consistency (α = .88). In this study, Cronbach's α = .774.

Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989)

The PSQI assesses sleep quality and disturbances over the past month via 19 items grouped into seven components. Items are scored 0–3, and a global score (0–21) is derived, with a score of>5 indicating poor sleep quality. Buysse et al. (1989) reported good reliability (α = .83). In this study, the reported value was α = .204, which is transparent.

Academic Procrastination Scale (APS; McCloskey & Scielzo, 2011)

The APS consists of 25 items, each rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Five items are reverse-scored. Total scores range from 25 to 125, with higher scores indicating greater procrastination. The original scale demonstrated high reliability (α = 0.85–0.90). In this study, the reliability coefficient was α = 0.564.

Data Collection & Ethical Procedure

Data collection was conducted in the University of Mkar, Mkar, using trained research assistants. Questionnaires were administered in classrooms after obtaining informed consent, and they were retrieved immediately to ensure completeness. Ethical standards were upheld through voluntary participation, the right to withdraw, confidentiality, anonymity, and coding to protect individual identities. Only aggregate results were reported.

RESULTS

Pearson correlation and multiple regression analyses were conducted to test the hypotheses.

The results of the study were analysed to test the three hypotheses, and the findings are presented in Tables 1-3.

A significant positive relationship was found between internet use and academic procrastination, r (218) = .219, p = .001, indicating that students who used the internet more frequently reported greater procrastination, as shown in Table 1 below.

Table 1:*Pearson Correlation Between Internet Use and Academic Procrastination (N = 220)*

Variables	N	R	df	P
Internet use and procrastination	220	0.219	218	.001*

Note. Source: Fieldwork, 2025. *p* < .05. indicates statistical significance

Table 2:*Pearson Correlation Between Sleep Quality and Academic Procrastination (N = 220)*

Variables	N	r	df	P
Sleep quality and procrastination	220	0.276	198	.001*

Source: Fieldwork, 2025. *Note.* Higher PSQI scores indicate poorer sleep quality. *p* < .05.

Table 2 indicates that sleep quality was significantly and positively related to academic procrastination, r(198) = .276, p = .001, suggesting that students with poorer sleep quality also reported higher levels of procrastination.

Table 3
Multiple Linear Regression Showing the Joint Relationship Between Internet Use, Sleep Quality, and Academic Procrastination (N = 220)

Variables	R	R^2	F	p-value	B	T	*P*
Academic procrastination (Constant)	.239	057	6.58	0.002*		15.90	0.001
Internet use	.239	.			0.211	3.13	0.002*
Sleep quality	.239				0.097	1.46	0.144

Source: Fieldwork, 2025.
Note. Dependent variable: Academic procrastination. *p* < .05. indicates statistical significance.

Multiple regression analysis revealed that internet use and sleep quality jointly predicted academic procrastination, with an R^2 of .057 ($F(2, 217) = 6.58$, $p = .002$), accounting for 5.7% of the variance in procrastination. Internet use made a significant independent contribution to predicting procrastination ($\beta = 0.211$, $t = 3.13$, $p = 0.002$), whereas sleep quality did not independently predict procrastination when internet use was controlled ($\beta = 0.097$, $t = 1.46$, $p = 0.144$).

DISCUSSION

This study examined the relationships among internet use, sleep quality, and academic procrastination among undergraduate students of the University of Mkar, Mkar, Nigeria. Consistent with previous findings in both international and Nigerian contexts, the present study revealed that excessive internet use was significantly associated with higher academic procrastination and emerged as a stronger individual predictor than sleep quality. These findings reaffirm earlier Nigerian and African studies that reported that excessive internet engagement undermines students' academic focus, time management, and task completion (Anierobi et al., 2021; Nnaemeka et al., 2022; Fehintola, 2023). Within the Nigerian context, where students increasingly rely on smartphones and online platforms for learning, the blurred boundary between academic and leisure use may heighten their susceptibility to procrastination.

The findings also align with Temporal Motivation Theory (Steel & König, 2006), which posits that procrastination is a function of impulsiveness and a preference for immediate rewards over delayed academic outcomes. Internet activities provide instant gratification, thereby reducing motivation to engage in less immediately rewarding academic tasks. Similarly, Self-Determination Theory (Deci & Ryan, 2000) provides additional explanatory insight by suggesting that students may turn to online platforms to temporarily satisfy unmet psychological needs such as autonomy, competence, and relatedness. When such gratification is consistently sought online rather than through academic engagement, academic procrastination becomes more likely. Thus, the present study supports earlier evidence that internet use can undermine self-regulation, weaken academic persistence, and reinforce delaying behaviours.

Sleep quality was significantly correlated with academic procrastination; however, it did not independently predict procrastination after controlling for internet use. This pattern suggests that sleep disruption may function more as a pathway through which excessive internet use exerts its effect rather than as a standalone predictor, echoing earlier findings that sleep difficulties often arise as a secondary consequence of late-night online engagement among students (Li et al.,

2019; Pusparini et al., 2022). The implication is that students may stay awake engaging with online activities, subsequently experience fatigue and reduced cognitive efficiency, and then delay academic tasks. Therefore, sleep quality may play an indirect rather than direct role in the procrastination cycle.

Significantly, these findings extend previous literature by demonstrating these relationships within a North-Central Nigerian university context, where little empirical research has been conducted. While international studies have widely established these associations, Nigerian research has predominantly focused on the Eastern and Northern regions. The present study, therefore, provides culturally relevant evidence by showing that the behavioural patterns observed elsewhere are also evident among Nigerian undergraduates in this region.

Nevertheless, the modest variance explained by the predictors indicates that academic procrastination is multifaceted and influenced by additional psychological, environmental, and institutional factors not examined in this study. Future studies could therefore explore variables such as academic motivation, personality characteristics, perceived academic stress, and institutional digital support systems to obtain a more comprehensive understanding.

Conclusion

This study examined the relationships among internet use, sleep quality, and academic procrastination among undergraduate students in North-Central Nigeria. The findings indicate that both internet use and sleep quality are positively associated with academic procrastination, meaning that as students' internet engagement increases and their sleep quality worsens, their tendency to delay academic tasks also increases. Although these relationships were statistically significant, they were relatively weak in strength. When both variables were entered into the regression model, internet use emerged as a significant independent predictor of academic procrastination, even after accounting for sleep quality. However, sleep quality did not demonstrate a significant direct effect on procrastination after controlling for internet use. Overall, the model significantly predicted academic procrastination and explained a modest proportion (about 5.7%) of its variance, suggesting that while internet use and sleep quality are relevant, other psychological, behavioural, and contextual factors may also play important roles in shaping procrastination among undergraduates. The study highlights the importance of integrated university-based interventions that focus on digital discipline and self-regulation to mitigate academic procrastination.

Strengths of the Study

This study is among the first to jointly examine internet use and sleep quality as predictors of procrastination in North-Central Nigeria. It is grounded in two robust theoretical frameworks (TMT and SDT) and uses validated instruments, enhancing the reliability of its findings.

Practical Implications

The findings of this study have important practical implications for university management, counselling services, and academic policy. Since internet use has emerged as a significant predictor of academic procrastination, efforts should focus on promoting judicious and goal-directed internet use among students.

1. **Judicious Internet Use and Digital Discipline Programs**
   University management, Information and Communication Technology (ICT) units, and Student Affairs should develop structured digital discipline programs, including workshops, peer-led seminars, and guidance sessions, on managing screen time, prioritizing academic-related internet activities, and minimizing distractions from social networking platforms during study periods, which will equip students with self-

management strategies to strengthen self-regulation and reduce procrastinatory behaviours.

2. **Curriculum-Integrated Study Skills and Time-Management Support**
   Academic departments and General Studies units should incorporate brief modules on time management, academic planning, and self-regulation skills into existing academic support or orientation courses. Use practical activities such as creating personal study timetables, setting task deadlines, and tracking internet use. The goal is to assist students in translating the knowledge they gain into daily behavioural change, thereby reducing the tendency to delay academic work.
3. **Counselling and Mentorship Interventions**
   University counsellors and academic advisers should provide targeted support using cognitive-behavioural strategies and motivational interviewing to help students identify personal procrastination triggers, challenge unhelpful thinking patterns, and develop realistic study schedules. Thus, motivation, accountability, and consistency in academic engagement will be enhanced.

Limitations and Future Research Directions

The cross-sectional design limits causal inference, and reliance on self-report instruments may introduce response bias, although such measures are widely accepted in behavioural research. Additionally, the relatively low internal consistency of the sleep quality instrument in this sample suggests caution when interpreting sleep-related findings. Future studies should employ longitudinal or experimental designs, incorporate additional psychological and contextual predictors such as academic motivation and coping style, and replicate the study across multiple universities to enhance generalisability.

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