

Research Article

Exploring the Relationships among Mobile Phone Addiction, Academic Procrastination, and Academic Performance in Nursing Education

Lalit Rajpurohit¹, K C Yadav²

¹PhD Scholar, ²Professor & Dean, Faculty of Nursing, Pacific Medical University, Udaipur, India.

DOI: <https://doi.org/10.24321/2278.2044.202446>

I N F O

Corresponding Author:

Lalit Rajpurohit, Faculty of Nursing, Pacific Medical University, Udaipur, India.

E-mail Id:

lalitrajpurohit1267@gmail.com

Orcid Id:

<https://orcid.org/0009-0000-6088-8361>

How to cite this article:

Rajpurohit L, Yadav K C. Exploring the Relationships among Mobile Phone Addiction, Academic Procrastination, and Academic Performance in Nursing Education. Chettinad Health City Med J. 2024;13(3):59-64.

Date of Submission: 2024-02-15

Date of Acceptance: 2024-06-19

A B S T R A C T

Introduction: Medical education plays a crucial role in preparing qualified healthcare professionals, and academic achievement is essential for students' success. However, academic procrastination and mobile phone addiction have been identified as challenges that can negatively impact students' academic performance. This study aimed to explore the relationships among mobile phone addiction, academic procrastination, and academic accomplishment specifically among nursing students.

Method: A correlational research design was applied in this study. A sample of 121 nursing students from Tirupati College of Nursing, Udaipur was recruited using a convenience sampling technique. Validated self-report questionnaires were utilised to assess mobile phone addiction, academic procrastination tendencies, and academic accomplishment. The data were analysed using appropriate statistical methods, including correlation analysis and regression analysis.

Results: The results show a positive correlation between mobile phone addiction and academic procrastination among nursing undergraduates. However, there was no significant direct effect of mobile phone addiction on academic accomplishment. The study also identified an adverse association between academic procrastination and academic accomplishment, emphasising the detrimental impact of procrastination on students' academic performance.

Conclusion: The findings suggest that nursing students who experience higher levels of mobile phone addiction may have an increased tendency to procrastinate academically. While mobile phone addiction did not directly impact academic achievement, academic procrastination was found to have a negative influence on academic performance. These results underscore the importance of addressing procrastination tendencies among nursing students to improve their academic success.

Keywords: Mobile Phone Addiction, Academic Procrastination, Academic Achievement, Nursing Students, Time Management, Phone Habits

Introduction

Medical education plays a crucial role in advancing healthcare systems universally. Students acquire the necessary knowledge with skills to become qualified health professionals through academic learning in school.¹ The demand for qualified health professionals is consistently high. Various factors such as learning strategies, outcome expectations, thinking skills, learning styles, lifestyle, self-esteem, family support, and social and mental aspects can influence academic accomplishment in students.² On the other hand, academic procrastination and mobile phone addiction have been found to have a negative effect on academic accomplishment among college students.³

Mobile phone addiction and academic procrastination are two widespread challenges faced by students in various educational settings, including nursing education.⁴ The widespread use of mobile phones and the increasing reliance on technology have contributed to the emergence of mobile phone addiction among students.⁵ This addictive behaviour involves excessive and compulsive usage of mobile phones, directing negative consequences on various aspects of students' lives, including their academic performance.⁶ Academic procrastination, on the other hand, refers to the tendency to delay or postpone academic tasks, resulting in suboptimal time management and compromised academic achievement.⁷

The prevalence of mobile phone addiction and academic procrastination among nursing undergraduates is of particular concern due to the unique demands and responsibilities associated with their field of study.⁸ Nursing students undergo rigorous coursework, engage in clinical rotations, and bear the responsibility of patient care, requiring excellent time management and dedication to their studies.⁹ However, the allure of mobile phones and the temptation to engage in procrastination can hinder their ability to effectively manage their time and meet academic goals.¹⁰

Extensive research has demonstrated the detrimental impacts of mobile phone addiction and academic procrastination on academic accomplishment.¹¹ Students who exhibit mobile phone addiction are very likely to experience difficulties concentrating on their studies, experience reduced motivation, and achieve lower grades compared to their non-addicted peers.¹² Similarly, academic procrastination has been shown to negatively impact students' overall academic performance, leading to lower grades, increased stress, and decreased satisfaction with their educational experience.¹³

Given the potential consequences of mobile phone addiction and academic procrastination on academic accomplishment

among nursing undergraduates, it is imperative to investigate and understand the nature and extent of these issues within the nursing education context.¹⁴ By identifying the factors contributing to mobile phone addiction and academic procrastination and exploring their effect on academic accomplishment, effective interventions and strategies can be developed to support nursing students in their educational journey.¹⁵

This quantitative study aims to examine the association of mobile phone addiction with academic procrastination and academic accomplishment among nursing undergraduates.¹⁶ By employing a quantitative research approach, the study will analyse data collected from a sample of nursing students using validated measures of mobile phone addiction, academic procrastination, and academic accomplishment.¹⁷ The study will investigate the prevalence rates of mobile phone addiction and academic procrastination among nursing undergraduates, explore their impact on academic achievement, and identify potential factors influencing these relationships.¹⁸

Understanding the adverse impact of mobile phone addiction and academic procrastination on academic accomplishment among nursing students is crucial for developing targeted interventions and strategies to support their educational success.¹⁹ By shedding light on the significance of these issues within the nursing education context, this study aims to contribute to the existing literature and inform educational institutions about the importance of addressing mobile phone addiction and academic procrastination to promote optimal academic performance among nursing students.²⁰

Objectives of the Study

1. To assess the prevalence of mobile phone addiction among nursing students Pacific Nursing University
2. To examine the correlation between mobile phone addiction, academic procrastination and academic performance in nursing students

Methodology

Study Duration: The study was conducted between January 9, 2024 and January 23, 2024.

Research Design: A correlational research design was employed to explore the relationships between mobile phone addiction, academic procrastination, and academic accomplishment among nursing undergraduates. This design allowed for the examination of variables without manipulating them, providing insights into their natural associations within the nursing education context.

Sample and Sampling Technique: A convenient sample of nursing students was recruited from Tirupati College of Nursing, Udaipur. The sample size of 121 was chosen based

on statistical considerations and previous research findings.

Data Collection Tools: Validated self-report questionnaires were utilised to assess mobile phone addiction, academic procrastination tendencies, and academic accomplishment. The Mobile Phone Addiction Scale (MPAS) and the Academic Procrastination Scale (APS) were employed to evaluate the respective constructs.

Data Analysis: The collected data were analysed using proper statistical methods. Descriptive statistics were used to examine the features of the sample and calculate means, standard deviations, and frequency distributions. Correlation analysis was used to discover the relationships between mobile phone addiction, academic procrastination, and academic accomplishment. Multivariate analysis techniques, such as regression analysis, may have been employed to assess the predictive power of mobile phone addiction and academic procrastination on academic accomplishment while managing potential confounding variables.

Ethical Considerations: The ethical permission were obtained from Ethical Institutional Committee, Pacific Medical University, Udaipur. Ref. No.:PMU/PMCH/IEC/2023/07. The study complied with ethical standards and protected participant confidentiality. All participants provided informed consent, and they were free to leave the research at any time without incurring any penalties. To ensure privacy, data were anonymised and securely stored.

Results

Table 1 shows majority participants are 53.72% males and 46.28% females. The majority of participants (34.71%) are aged between 23–25 years, followed by 20–22 years (23.97%). Most are in their 2nd year of study (38.02%), with a greater proportion living in urban areas (65.29%) compared to rural (34.71%). Family income shows a fairly even split, with 38.84% earning $\geq 50,000$ INR and 38.02% between 20,000–50,000 INR, while 23.14% earn less than 20,000 INR. This indicates a diverse sample across demographics, education levels, and income groups.

Table 1. Demographic Variables

N = 121

Variable	Frequency	Percentage
Gender		
Male	65	53.72
Female	56	46.28
Age (years)		
20–22	29	23.97
23–25	42	34.71
26–28	27	22.31
≥ 29	23	19.01

Year of study		
1st	32	26.45
2nd	46	38.02
3rd	22	18.18
4th	21	17.36
Living area		
Urban	79	65.29
Rural	42	34.71
Family income (INR)		
< 20,000	28	23.14
20,000–50,000	46	38.02
$\geq 50,000$	47	38.84

Table 2 shows 37.19% of participants fall under the mild category, followed by 26.45% reporting no symptoms. Meanwhile, 23.14% of participants experience moderate symptoms, and 13.22% report severe symptoms. This distribution indicates that the majority of participants face mild to moderate symptoms, while a smaller portion either experience no symptoms or severe ones.

Table 2. Mobile Phone Addiction Categories

N = 121

S. No.	Category	Frequency (Percentage)
1	No	32 (26.45)
2	Mild	45 (37.19)
3	Moderate	28 (23.14)
4	Severe	16 (13.22)

Table 3 shows 46.28% of participants fall in the 61–75% category, followed by 37.92% with scores of 76% or higher. A smaller portion, 15.70%, scored below 60%. This distribution indicates that the majority of participants perform in the middle to higher range, with fewer falling into the lower category.

Table 3. Academic Procrastination Categories

N = 121

S. No.	Category (%)	Frequency (Percentage)
1	< 60	19 (15.70)
2	61–75	56 (46.28)
3	≥ 76	46 (37.92)

Table 4 shows that mobile phone addiction has a moderate positive correlation with academic procrastination (0.42), indicating that higher mobile phone addiction is associated with more procrastination. There is also a weak positive correlation between mobile phone addiction and academic achievement (0.28). On the other hand, academic procrastination shows a weak negative correlation with academic achievement (-0.16), suggesting that higher procrastination is slightly linked to lower academic performance.

Table 4. Correlation Matrix

N = 121

Variables	Mobile Phone Addiction	Academic Procrastination	Academic Achievement
Mobile phone addiction	1	0.42	0.28
Academic procrastination	0.42	1	-0.16
Academic achievement	0.28	-0.16	1

Table 5 show that gender, age, and year of study explain 12% of the variance in mobile phone addiction (R-squared = 0.12), with a significant positive effect ($\beta = 0.23$, $p = 0.041$). For academic procrastination, these variables explain 5% of the variance (R-squared = 0.05), but the effect is not statistically significant ($\beta = -0.09$, $p = 0.342$). In the case

of academic achievement, the model explains 8% of the variance (R-squared = 0.08), with a positive effect ($\beta = 0.15$) that approaches significance ($p = 0.092$). This suggests that gender, age, and year of study have a small but noteworthy influence on mobile phone addiction, with limited effects on academic procrastination and achievement.

Table 5. Regression Analysis

N = 121

Dependent Variable	Independent Variables	β	p Value	R-squared
Mobile phone addiction	Gender, age, year of study	0.23	0.041	0.12
Academic procrastination	Gender, age, year of study	-0.09	0.342	0.05
Academic achievement	Gender, age, year of study	0.15	0.092	0.08

β represents the regression coefficients, p value indicates the significance level, and R-squared represents the proportion of variance explained by the independent variables

Discussion

In our study focusing on nursing students, we inspected the relationships among mobile phone addiction, academic procrastination, and academic accomplishment. While we observed a positive association between mobile phone addiction and academic procrastination, we did not find a direct significant effect on academic achievement.

Yang et al. conducted a study among college students and found an important positive association between mobile phone addiction and academic procrastination.²¹ Similarly, Raza et al. reported a direct negative effect of mobile phone addiction on academic accomplishment. While our study observed a positive association between mobile phone addiction and academic procrastination, we did not find a significant direct effect on academic achievement. This difference could be attributed to variations in sample characteristics or measurement tools used in the studies.²² Our study's results align with previous research by Akpur and Gareau et al., which emphasised the detrimental effect of academic procrastination on academic accomplishment.²³ This negative correlation underscores the importance of addressing procrastination tendencies among nursing students to improve academic performance.²⁴

Our study is consistent with findings from Zhou, Duan et al., and Alburan et al., demonstrating a positive association between mobile phone addiction and academic procrastination.^{3,25,26} These correlations indicate that higher levels of mobile phone addiction may lead to increased

tendencies to procrastinate academically. Furthermore, the works of Hawi and Samaha support the notion that mobile phone addiction adversely affects academic accomplishment.^{27,28} While our study did not find a direct impact, the connection between mobile phone addiction and academic procrastination was evident, aligning with the broader literature on the detrimental effects of excessive mobile phone usage on academic outcomes.

Other studies, such as those of Kim and Seo, Kljajic et al., and Janssen also observed negative correlations between academic procrastination and academic achievement, reinforcing the importance of addressing procrastination behaviours across different educational levels.²⁹⁻³¹ While our findings align with the majority of the reviewed literature, it is essential to acknowledge that contextual factors and educational settings may influence the direct effect of mobile phone addiction on academic accomplishment. However, the consistent positive association between mobile phone addiction and academic procrastination highlights the need to promote effective time management strategies and address mobile phone usage among nursing students to support their academic success.

Conclusion

In conclusion, our study explored the relationships between mobile phone addiction, academic procrastination, and academic accomplishment among nursing undergraduates. While we found a positive association between mobile phone addiction and academic procrastination, the direct

impact on academic achievement was not significant. Our findings align with previous research highlighting the harmful consequence of academic procrastination on academic accomplishment, reinforcing the need to address procrastination tendencies among nursing students. Additionally, our study supports the positive correlation between mobile phone addiction and academic procrastination, indicating the importance of managing phone habits to reduce academic procrastination. While we did not find a direct effect of mobile phone addiction on academic accomplishment, the consistent positive correlation highlights the significance of promoting effective time management strategies and addressing mobile phone usage to support nursing students' academic success.

Source of Funding: None

Conflict of Interest: None

References

- Quintero GA. Medical education and the healthcare system – why does the curriculum need to be reformed? *BMC Med.* 2014 Nov 12;12:213. [PubMed] [Google Scholar]
- Institute of Medicine (US) Committee on the Health Professions Education Summit; Greiner AC, Knebel E. The core competencies needed for health care professionals. In: *Health professions education: a bridge to quality* [Internet]. National Academies Press (US); 2003 [cited 2023 Jul 22]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK221519/>
- Albursan IS, Al Qudah MF, Al-Barashdi HS, Bakhiet SF, Darandari E, Al-Asqah SS, Hammad HI, Al-Khadher MM, Qara S, Al-Mutairy SH, Albursan HI. Smartphone addiction among university students in light of the COVID-19 pandemic: prevalence, relationship to academic procrastination, quality of life, gender and educational stage. *Int J Environ Res Public Health.* 2022;19(16):10439. [PubMed] [Google Scholar]
- Tian J, Zhao JY, Xu JM, Li QL, Sun T, Zhao CX, Gao R, Zhu LY, Guo HC, Yang LB, Cao DP, Zhang SE. Mobile phone addiction and academic procrastination negatively impact academic achievement among Chinese medical students. *Front Psychol.* 2021 Nov 23;12:758303. [PubMed] [Google Scholar]
- Parasuraman S, Sam AT, Yee SW, Chuon BL, Ren LY. Smartphone usage and increased risk of mobile phone addiction: a concurrent study. *Int J Pharm Investig.* 2017;7(3):125-31. [PubMed] [Google Scholar]
- Cha SS, Seo BK. Smartphone use and smartphone addiction in middle school students in Korea: prevalence, social networking service, and game use. *Health Psychol Open.* 2018;5(1):205510291875504. [PubMed] [Google Scholar]
- Svartdal F, Løkke JA. The ABC of academic procrastination: functional analysis of a detrimental habit. *Front Psychol.* 2022 Nov 3;13:1019261. [PubMed] [Google Scholar]
- Márquez-Hernández VV, Gutiérrez-Puertas L, Granados-Gómez G, Gutiérrez-Puertas V, Aguilera-Manrique G. Problematic mobile phone use, nomophobia and decision-making in nursing students mobile and decision-making in nursing students. *Nurse Educ Pract.* 2020 Nov;49:102910. [PubMed] [Google Scholar]
- Vizeshfar F, Rakhshan M, Shirazi F, Dokoohaki R. The effect of time management education on critical care nurses' prioritization: a randomized clinical trial. *Acute Crit Care.* 2022 May;37(2):202-8. [PubMed] [Google Scholar]
- Yang X, Wang P, Hu P. Trait procrastination and mobile phone addiction among Chinese college students: a moderated mediation model of stress and gender. *Front Psychol* [Internet]. 2020 [cited 2023 Jul 22];11:614660. Available from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.614660> [PubMed] [Google Scholar]
- Sunday OJ, Adesope OO, Maarhuis PL. The effects of smartphone addiction on learning: a meta-analysis. *Comput Hum Behav Rep.* 2021 Aug 1;4:100114. [Google Scholar]
- Jameel S, Shahnawaz MG, Griffiths MD. Smartphone addiction in students: a qualitative examination of the components model of addiction using face-to-face interviews. *J Behav Addict.* 2019;8(4):780-93. [PubMed] [Google Scholar]
- Hailikari T, Katajavuori N, Asikainen H. Understanding procrastination: a case of a study skills course. *Soc Psychol Educ.* 2021 Apr 1;24(2):589-606. [Google Scholar]
- Li L, Gao H, Xu Y. The mediating and buffering effect of academic self-efficacy on the relationship between smartphone addiction and academic procrastination. *Comput Educ.* 2020 Aug 1;159:104001. [Google Scholar]
- Kertechian KS, Ismail HN. A positive view of excessive smartphone utilization and its relationship with other academic-related variables within the online course setting. *Psychol Rep.* 2023 Jun 4:332941231183338. [PubMed] [Google Scholar]
- Rashid JA, Aziz AA, Rahman AA, Saaid SA, Ahmad Z. The influence of mobile phone addiction on academic performance among teenagers. *J Komun Malays J Commun.* 2020;36(3):408-24. [Google Scholar]
- Nayak JK. Relationship among smartphone usage, addiction, academic performance and the moderating role of gender: a study of higher education students in India. *Comput Educ.* 2018;123:164-73. [Google Scholar]

18. Song A, Song G, Wang H, Niu Q, Yin G, Chen H, Rehman FU. Prevalence of mobile phone addiction among medical students: a systematic review. *Am J Transl Res.* 2023 May 15;15(5):2985-98. [PubMed] [Google Scholar]
19. Lin Y, Liu Y, Fan W, Tuunainen VK, Deng S. Revisiting the relationship between smartphone use and academic performance: a large-scale study. *Comput Hum Behav.* 2021 Sep 1;122:106835. [Google Scholar]
20. Ghaffari F, Mohammadi S, Arazi T, Arzani A, Rahimaghaee F. Shedding light on the causes of academic procrastination among nursing students: a qualitative descriptive study. *J Educ Health Promot.* 2021 May 31;10(1):181. [PubMed] [Google Scholar]
21. Yang Z, Asbury K, Griffiths MD. An exploration of problematic smartphone use among Chinese university students: associations with academic anxiety, academic procrastination, self-regulation and subjective wellbeing. *Int J Ment Health Addict.* 2019 Jun;17(3):596-614. [Google Scholar]
22. Raza SA, Yousufi SQ, Rafi SM, Javaid ST. Impact of smartphone addiction on students' academic achievement in higher education institute of Pakistan. *J Educ Soc Sci.* 2020 Mar 1;8:1-14. [Google Scholar]
23. Akpur U. The effect of procrastination on academic achievement: a meta-analysis study. *Int J Educ Methodol [Internet].* 2020 [cited 2023 Jul 20];6(4):681-90. Available from: <https://www.ijem.com/the-effect-of-procrastination-on-academic-achievement-a-meta-analysis-study> [Google Scholar]
24. Gareau A, Chamandy M, Kljajic K, Gaudreau P. The detrimental effect of academic procrastination on subsequent grades: the mediating role of coping over and above past achievement and working memory capacity. *Anxiety Stress Coping.* 2019 Mar 4;32(2):141-54. [PubMed] [Google Scholar]
25. Zhou X, Yang F, Chen Y, Gao Y. The correlation between mobile phone addiction and procrastination in students: A meta-analysis. *J Affect Disord.* 2024 Feb 1;346:317–28. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0165032723013794?via%3Dihub>
26. Duan H, Wang Z, Ji Y, Ma L, Liu F, Chi M, Deng N, An J. Using goal-directed design to create a mobile health app to improve patient compliance with hypertension self-management: development and deployment. *JMIR Mhealth Uhealth.* 2020 Feb 25;8(2):e14466. [PubMed] [Google Scholar]
27. Hawi NS, Samaha M. To excel or not to excel: strong evidence on the adverse effect of smartphone addiction on academic performance. *Comput Educ.* 2016 Jul;98:81-9. [Google Scholar]
28. Samaha M, Hawi NS. Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Comput Hum Behav.* 2016 Apr;57:321-5. [Google Scholar]
29. Kim KR, Seo EH. The relationship between procrastination and academic performance: a meta-analysis. *Pers Individ Differ.* 2015 Aug;82:26-33. [Google Scholar]
30. Kljajic K, Schellenberg BJ, Gaudreau P. Why do students procrastinate more in some courses than in others and what happens next? Expanding the multilevel perspective on procrastination. *Front Psychol [Internet].* 2022 [cited 2023 Jul 24];12:786249. Available from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.786249> [PubMed] [Google Scholar]
31. Janssen J. Academic procrastination: prevalence among high school and undergraduate students and relationship to academic achievement [dissertation]. Georgia State University; 2015 [cited 2023 Jul 20]. Available from: https://scholarworks.gsu.edu/epse_diss/103/ [Google Scholar]